

XX
CC The sequence is that of a derivative of insulinotropic which
CC has insulinotropic activity and is useful for enhancing insulin
CC action in a mammal, partic. for treating Type II diabetes
CC (claimed). It is partic. suited for delivery to a mammal by
CC ionophoresis.

XX
SU Sequence 28 AA;

Query Match 99.3%; Score 144; DB 15; Length 28;
Best Local Similarity 100.0%; Pred. No. 2,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

RESULT 2

AA063249 standard; peptide; 28 AA.

XX
AC AAR63249;

XX
DE 02-MAY-1995 (first entry)

XX
DE Insulinotropic (GLP-1(7-34)) for use in treating NIDDM.

XX
KW insulinotropic activity; GLP-1, glucagon-like protein 1; NIDDM;

XX
KW non-insulin dependent diabetes mellitus; insulinotropic; truncated.

XX
US Synthetic.

XX
PN EPE19322-A.

XX
PD 12-OCT-1994.

XX
PE 10-FEB-1994; 94EP-0300981.

XX
PR 07-APR-1994; 930S-0044133.

XX
PA (PE12) PE1ZER INC.

XX
PI (PE12) PE1ZER CORP.

XX
PI Danley DE, Gelland RA, Geoghegan KE, Kim Y, Lambert WJ;

XX
PI Q1 H, 01h, Hong Q, Yesook K;

XX
DM WPI; 1994-311774/39.

XX
PT Treatment of non-insulin dependent diabetes mellitus - using a

XX
PT glucagon-like peptide 1 or deriv. with prolonged action for

XX
PT sustained glycemic control

XX
PS Claim 2; Page 46; 70pp; English.

XX
CC This peptide is GLP-1(7-34) [GLP-1 glucagon-like peptide], a truncated

XX
CC deriv. of GLP-1 and its derivs are useful in the treatment of

XX
CC Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in

XX
CC the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino

XX
CC acid peptide having amino acids 7-37 of GLP-1, alternatively referred

XX
CC to as insulinotropic, GLP-1(7-37) has insulinotropic activity, i.e. it

XX
CC is able to stimulate, or cause to be stimulated, the synthesis of the

XX
CC hormone insulin. Other derivs. of GLP-1 are shown in AAR63246-51. It

XX
CC has been discovered that prolonged plasma elevations of GLP-1, and

XX
CC related polypeptides, are necessary during the meal and beyond to

XX
CC achieve sustained glycemic control in patients with NIDDM. The invention

XX
CC provides a compsn. that has prolonged action after each administration.

XX
SU Sequence 28 AA;

XX
Query Match 99.3%; Score 144; DB 15; Length 28;
Best Local Similarity 100.0%; Pred. No. 2,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

RESULT 3

AA016669 standard; peptide; 28 AA.

XX
AC AAM16669;

XX
DE 22-JUL-1997 (first entry)

XX
DE Tetradecanoylated glucagon like peptide 1 derivative.

XX
KW Hormone; derivative; glucagon like peptide 1; modification;

XX
KW lipophilic substituent; tetradecanoyl; protracted; action;

XX
KW profile; GLP-1.

XX
OS Synthetic.

XX
FH Key

XX
FT Modified-site 28

XX
FT /note="Lys[Nepsion-gamma-Glu(Nalphe-tetradecanoyl)-

XX
FT -OH]-COOH"

XX
PN W09629342-A1.

XX
PD 26-SEP-1996.

XX
PE 18-MAR-1996; 96WO-DK00106.

XX
PR 17-MAR-1995; 95DK-0000275.

XX
PA (NOVO) NOVO-NORDISK AS.

XX
PI Halstrom JB, Hansen PH, Havelund S, Jonassen I;

XX
PI Kurtzals JH;

XX
DR WPI; 1996-443133/44.

XX
PT New peptide hormone derivs. - having a lipophilic substit.

XX
PT introduced into the N-terminal or C-terminal for a protracted

XX
PT profile of action.

XX
PS Disclosure; Page 5; 21pp; English.

XX
CC The present sequence is a pharmacologically active peptide hormone

XX
CC (PH) derivative, where the parent PH, glucagon like peptide 1,

XX
CC has been modified by introducing a carboxy-terminal lipophilic

XX
CC substituent, specifically tetradecanoyl, giving it a protracted

XX
CC profile of action in the body compared to the parent PH.

XX
SU Sequence 28 AA;

XX
Query Match 99.3%; Score 144; DB 17; Length 28;
Best Local Similarity 100.0%; Pred. No. 2,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX
OY 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLVK 28

XX
RESULT 4

XX
AA02644 standard; peptide; 28 AA.

XX
AC AAM02644;

XX
PT 24-JAN-1997 (first entry)

DE Glucagon-like peptide-1 residues 7-34.
 XX GLP-1 (7-34): thixotropic; insulinotropic; diabetes treatment;
 KM phenol, alcohol, aromatic, gel, protracted release.
 XX Synthetic.
 OS
 PN WO9620005-A1.
 XX
 PD 04-JUL-1996.
 XX
 PF 21-DEC-1995; 95WO-DK00516.
 XX
 PR 23-DEC-1994; 94DK-0001478.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Jensen E, Jorgensen KH;
 DR WPI, 1996-321644/32.
 XX
 XX New compsns. contg. glucagon-like peptide-1 - comprising gels for
 PT the protracted release of GLP-1 in the treatment of diabetes
 PT mellitus.
 XX
 PS Disclosure; Page 3; 16pp; English.
 XX
 CC The present sequence is that of residues 7-34 of glucagon-like peptide-1
 CC (GLP-1 (7-34)). Compsns. contg. a GLP-1 cpd. and a phenolic and/or an
 CC alcoholic aromatic cpd. result in a thixotropic gel showing a protracted
 CC release of the active GLP-1 cpd.. The compsns. can be used as
 CC insulinotropic agents in the treatment of diabetes. In partic. GLP-1
 CC (7-37) is used in the examples of the invention (sequence not given).
 CC
 SQ Sequence 28 AA:
 Query Match 99.3%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14.
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGDAKEFTIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGDAKEFTIAMLVK 28
 ||||||||||||||||||
 RESULT 5
 ID AAR98950 standard; peptide; 28 AA.
 XX
 AC AAR98950;
 XX
 DT 15-JAN-1997 (first entry)
 XX
 DE Target peptide (GLP1(7-34)) used in fusion protein construct.
 XX
 KM Fusion protein construct; isolation; purification;
 KM growth hormone releasing factor; glucagon-like peptide 1;
 KM parathyroid hormone; inclusion body; carbonic anhydrase.
 XX
 OS Synthetic.
 PN WO9617942-A1.
 XX
 PD 13-JUN-1996.
 XX
 PF 07-DEC-1995; 95WO-US15800.
 XX
 PR 07-DEC-1994; 94US-0350530
 XX
 PA (BION-) BIONEERASKA INC.
 XX
 PI De JA MOTTLE RS, Henriksen DB, Holmquist B, Manning SD;
 PI Partridge HK, Stout JS, Wagner FW;

XX
 DR WPI, 1996-281186/29.
 XX
 XX Isolation and purification of peptide(s) from fusion protein constructs
 PT - which include a carbonic anhydrase and a variable fused
 PT polypeptide
 XX
 FS Claim 18, page 47, 67pp, English.
 XX
 CC A new method for the isolation and/or purification of a recombinant
 CC peptide employs a fusion protein construct (FPC) comprising a
 CC carbonic anhydrase and a variable fused polypeptide containing a
 CC target peptide. The method comprises precipitating either the FPC or
 CC a fragment of the FPC including the carbonic anhydrase. An
 CC alternative method of producing the peptide comprises expressing the
 CC FPC as part of an inclusion body. The target peptides of the FPC are
 CC derived from growth hormone releasing factor (GHRF), glucagon-like
 CC peptide 1 (GLP1) or parathyroid hormone (PTH). This sequence
 CC corresponds to amino acids 7-34 of GLP1.
 CC
 SQ Sequence 28 AA:
 Query Match 99.3%; Score 144; DB 17; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 HAEGFTSDVSSYLEGDAKEFTIAMLVK 28
 DB 1 HAEGFTSDVSSYLEGDAKEFTIAMLVK 28
 ||||||||||||||||||
 RESULT 6
 ID AAW93527 standard; peptide; 28 AA.
 XX
 AC AAW93527;
 XX
 DT 15-JUN-1995 (first entry)
 XX
 DE Peptide used in treatment of diabetes mellitus and obesity.
 XX
 KM Diabetes mellitus; obesity; therapy; treatment; hormone, CAMP; cAMP;
 KM cyclic adenosine monophosphate; cyclic nucleotide degradation;
 KM cyclic guanosine monophosphate; antidiabetic; hypoglycemia; acromegaly;
 KM anti-obesity; non-insulin-dependent; mature onset; pancreatic disease;
 KM secondary hyperglycemia; pancreatitis; pancreasectomy; pheochromocytoma;
 KM hemochromatosis; endocrine disease; Cushing's syndrome; idiopathic;
 KM hyperthyroidism; benzothiadiazine saluretic; diazoxide; glucocorticoid;
 KM pathological glucose tolerance; hyperglycemia, dyslipoproteinemia;
 KM hyperlipoproteinemia; hypotension.
 XX
 OS Synthetic.
 PN WO9914259-A1.
 XX
 PD 25-MAR-1999.
 XX
 PF 11-SEP-1998; 98WO-EP05804.
 XX
 PR 11-MAR-1998; 98DE-1010515.
 XX
 PR 12-SEP-1997; 97DE-1040081.
 XX
 PR 23-DEC-1997; 97DE-1057739.
 XX
 PA (FORS/) FORSMANN W G.
 XX
 PI Adermann K, Forssmann WG, Meyer M, Richter R;
 XX
 DR WPI, 1999-244026/20.
 XX
 XX Composition containing stimulators of cyclic nucleotide
 PT monophosphate
 XX
 PI Claim 30; Page 18; 38pp; German.

XX This invention describes a composition containing at least two of the
 CC components (a) hormone that stimulates production of cyclic adenosine
 CC monophosphate (cAMP) (b) inhibitor of cyclic nucleotide degradation
 CC and (c) hormone that stimulates production of cyclic guanosine
 CC monophosphate (cGMP). This composition has antidiabetic, hypoglycaemic,
 CC and anti-obesity activity. The product described in the invention
 CC can be used for treatment of (i) diabetes mellitus (non-)insulin
 CC dependent or mature onset diabetes, (ii) secondary hyperglycemia
 CC associated with pancreatic disease, (chronic pancreatitis, pancreasectomy
 CC or hemochromatosis) or endocrine disease (acromegaly, Cushing's
 CC syndrome, pheochromocytoma or hyperthyroidism), (iii) iatrogenic
 CC hyperglycemia (e.g. caused by benzothiadiazine saluretics, diazoxide or
 CC glucocorticoids), (iv) pathological glucose tolerance, (v) hyperglycemia,
 CC (vi) dyslipoproteinemia, (vii) obesity, (viii) hyperlipoproteinemia
 CC and/or hypotension.

SQ Sequence 28 AA:

Query Match 99.1%; Score 144; DB 20; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28
 1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28

RESULT 7
 AA07295
 ID AA07295 standard; peptide: 28 AA.
 XX
 AC AAB07295:
 XX
 DT 17-JAN-2001 (first entry)
 XX
 DE Modified Glucagon like Peptide (GLP) # 5.
 XX
 KW Peptide amidation: C-terminal alpha-carboxamide; GLP; clostripain;
 XX amidative cleavage; clostripain; B; glucagon like peptide.
 XX
 OS unidentified.
 XX
 UN WO200028067-A1.
 XX
 PD 18-MAY-2000.
 XX
 PE 05-NOV-1999; 99WO-US26060.
 XX
 PR 06-NOV-1998; 98US-0107311.
 XX
 PR 16-DEC-1998; 98US-0212663.
 XX
 PA (BION-) BIONEERASKA INC.
 XX
 PI Dornady D, Stout JS, Strydom DJ, Holmquist B, Wagner FW;
 XX
 WP: 2000-376575/32.
 XX
 PT Preparation of peptide with C-terminal alpha-carboxamide residue, a
 XX growth hormone releasing factors comprises treating substrate with
 XX clostripain in presence of clostripain
 XX
 PS Example 1: Page 16; 48pp; English.
 XX
 CC The present sequence is a modified glucagon like peptide (GLP) fragment.
 CC This sequence is composed of residues 7 to 34 of GLP, and was produced
 CC by attempted clostripain catalysed amidation of another modified GLP
 CC fragment (AA07291) at pH 7.9. Hydrolysis at lys34 occurred to produce the
 CC present sequence. The expected product would have had a C-terminal
 CC alpha-carboxamide residue. The peptide of AAB07291 was treated with an
 CC ammonia reagent and clostripain (also known as clostripain B).
 CC Clostripain is an extracellular thiol endoprotease from Clostridia.
 CC Clostripain cleaves arginine containing peptides amidatively at an

CC Arg-Xaa peptide bond.
 XX
 SQ Sequence 28 AA.

Query Match 99.1%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28
 1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28

RESULT 8
 AA078952
 ID AAV78952 standard; peptide: 28 AA.
 XX
 AC AAV78952:
 XX
 DT 05-JUN-2000 (first entry)
 XX
 DE Glucagon-like peptide-1 fragment GLP-1 (7-34).
 XX
 KW Glucagon-like peptide-1; GLP-1; insulin producing cell; insulin; amyase;
 XX diabetes mellitus type 1; human; livestock; pct.
 XX
 OS Homo sapiens.
 XX
 PN WO200009666-A2.
 XX
 PD 24-FEB-2000.
 XX
 PE 10-AUG-1999; 99WO-US18099.
 XX
 PR 10-AUG-1998; 98US-0095917.
 XX
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX
 PI Egan J, Perlelli R, Passaniti A, Greig N, Holloway H;
 XX
 WP: 2000-205999/18.
 XX
 DR
 XX
 PT Differentiation of non-insulin producing cells into insulin-producing
 XX cells by glucagon-like peptide-1 or extendin-4, used to treat diabetes
 XX mellitus
 XX
 PS Disclosure: Page 16; 119pp; English.
 XX
 CC This sequence represents a glucagon-like peptide-1 (GLP-1) fragment.
 CC GLP-1 is a hormone normally secreted by neuroendocrine cells of the gut,
 CC in response to food. GLP-1 fragments or extendin-4 growth factor
 CC fragments can be used in the production of a population of
 CC insulin-producing cells from a population of non-insulin producing cells.
 CC The methods may also be used to promote pancreatic amylase producing
 CC cells to produce both insulin and amylase. The methods are used to treat
 CC diabetes mellitus (type 1) in humans, domesticated animals, livestock and
 CC pets.
 XX
 SQ Sequence 28 AA:

Query Match 99.1%; Score 144; DB 21; Length 28;
 Best Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28
 1 HAEGFTSDVSSYLEGQAAKEFIAVLVK 28

RESULT 9
 AA09258
 ID AA09258 standard; peptide: 28 AA.
 XX

AC AAB09258;
 PD 15-NOV-2001 (first entry)
 DE Human glucagon-like peptide-1 related molecule (GLP-1 derivative #5.
 XX
 DE Human glucagon-like peptide 1 related molecule; GLP-1 crystal;
 KW manufacturing process, pharmaceutical formulation; therapy; diabetes;
 KM obesity.
 XX
 OS Homo sapiens.
 OS Synthetic.
 PN US2001014666-A1.
 XX
 PD 16-AUG-2001.
 XX
 PF 11-DEC-1998; 98US-0209799.
 XX
 PR 11-DEC-1998; 98US-0209799.
 XX
 PA (HERMELING R. N.
 PA (HOFFMANN J. A.
 PA (NARASIMHAN C.
 XX
 PI Hermeling RN, Hoffmann JA, Narasimhan C;
 XX
 DR WPI: 2001-529113/58.
 XX
 PT Glucagon-like peptide-1 crystals for treating diabetes are prepared
 PT from mother liquor containing glucagon-like peptide-1 related molecules
 PT dissolved in buffered solution and alcohol
 PS
 PS Disclosure: Page 11; 17pp; English.
 XX
 CC The present sequence is a human glucagon-like peptide-1 related molecule
 CC (GLP-1 derivative. The single tetragonal flat rod-shaped or plate-like
 CC crystals of a GLP are prepared from a crystallisation solution containing
 CC a GLP, a buffering agent, an alcohol or a mono or disaccharide and
 CC optionally ammonium sulphate or zinc. The GLP crystals are used in
 CC manufacturing process, in pharmaceutical formulations for treating
 CC diabetes, obesity or related conditions in mammals.
 XX
 SO Sequence 28 AA;
 Query Match 99.3%; Score 144; DB 22; Length 28;
 Best Local Similarity 100.0%; Pred No 2; Le-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGTFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGTFTSDVSSYLEGQAAKEFIAWLK 28
 RESULT 10
 AAG63273
 ID AAG63270 standard; protein; 28 AA.
 XX
 AC AAG63270;
 XX
 PD 01-OCT-2001 (first entry)
 DE Amino acid sequence of glucagon-like peptide 1 (GLP-1) analogue
 XX
 KW Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 XX
 OS Synthetic.
 XX
 OS Key Location/Qualifiers
 FT Misc-difference 28 /note="this residue is Lys-COOH or Lys-Gly COOH"
 XX
 PN WO200155213-A2.

XX
 PD 02-AUG-2001.
 XX
 PE 16-JAN-2001; 2001WO-0500010
 XX
 PR 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Prouty WFJ, Rineilla JVJ;
 XX
 DR WPI: 2001-476192/51.
 XX
 PT Preparing a glucagon-like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution
 PS
 PS Disclosure: Page 12; 49pp; English.
 XX
 CC The present sequence represents a glucagon-like peptide 1 (GLP-1)
 CC analogue. The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemisation of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 SO Sequence 28 AA;
 Query Match 99.3%; Score 144; DB 22; Length 28;
 Best Local Similarity 100.0%; Pred No 2; Le-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGTFTSDVSSYLEGQAAKEFIAWLK 28
 DB 1 HAEGTFTSDVSSYLEGQAAKEFIAWLK 28
 RESULT 11
 AAG63273
 ID AAG63273 standard; protein; 28 AA.
 XX
 AC AAG63273;
 XX
 PD 01-OCT-2001 (first entry)
 DE An insoluble glucagon like peptide 1 (GLP-1) compound.
 XX
 KW Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 XX
 OS Synthetic.
 XX
 PN WO200155213 A2.
 XX
 PD 02-AUG-2001.
 XX
 PP 16-JAN-2001; 2001WO-0500010.
 PR 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Prouty WFJ, Rineilla JVJ;
 XX
 DR WPI: 2001-476192/51.
 XX
 PT Preparing a glucagon like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution

XX Claim 4: Page 38; 49pp; English.
 PS
 CC The present sequence represents an insoluble glucagon-like peptide 1
 CC (GLP-1). The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemization of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 CC
 XX Sequence 28 AA:
 SU
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
 RESULT 12
 ABB07145
 ID ABB07145 standard; peptide: 28 AA.
 XX
 AC ABB07145;
 XX
 DT 13 MAR 2002 (first entry)
 XX
 DE Glucagon-like peptide-1 (GLP-1) fragment (residues 7-34).
 XX
 KW GLP-1; glucagon-like peptide-1; growth-hormone releasing factor; GRF;
 KW parathyroid hormone; PTH; antidiabetic; anorectic; cerebroprotective;
 KW vasotrophic; anti-inflammatory; antihypertensive; hepatoprotective;
 KW tranquilizer; veterinary; osteopathic; pharmaceutical.
 XX
 OS Homo sapiens.
 XX
 PN W0200187322-A2.
 XX
 PD 22 NOV 2001.
 XX
 PE 17 MAY 2001; 2001WO-US15872.
 XX
 PR 17 MAY 2000; 2000US-205377P.
 PR 19 MAY 2000; 2000US-205262P.
 XX
 PA (HION-) HIONERASKA INC.
 XX
 PI Holmquist B, Dormady DC;
 XX
 DR WPI: 2002-082941/11.
 XX
 PT New peptide formulation for treating disease e.g. diabetes, obesity,
 PT ischemia comprises peptides, an acid having a specified dissociation
 PT constant and an excipient.
 XX
 PS Disclosure: Page 10; 34pp; English.
 XX
 CC The invention provides a pharmaceutical composition that comprises a
 CC molecule selected from a glucagon-like-peptide-1 (GLP-1) molecule, growth
 CC -hormone releasing factor (GRF) molecule or a parathyroid hormone (PTH)
 CC molecule. The composition further includes a weak acid such as acetic
 CC acid. The pH of the composition is 3 - 5. The composition can be used for
 CC the treatment of a disease or condition selected from diabetes, excess
 CC appetite, obesity, stroke, ischemia, reperfusion injury, disturbed
 CC glucose metabolism, surgery, coma, shock, gastrointestinal disease,
 CC digestive hormone disease, atherosclerosis, vascular disease, gestational
 CC diabetes, liver disease and cirrhosis, glucocorticoid excess, Cushing's
 CC disease, the presence of activated counter regulatory hormones that occur

CC after trauma or a disease, hypertriglyceridemia, chronic pancreatitis,
 CC the need for parenteral feeding, and a catabolic state following surgery
 CC or injury. The present sequence represents a GLP-1 peptide fragment.
 CC
 XX Sequence 28 AA:
 SU
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
 RESULT 13
 AAM50395
 ID AAM50395 standard; Peptide, 28 AA.
 XX
 AC AAM50395;
 XX
 DT 18-FEB-2002 (first entry)
 XX
 DE Glucagon-like peptide 1 (7-34).
 XX
 KW Glucagon-like peptide 1 (7-34); GLP-1 (7-34); insulinotropic;
 KW human; glycemia; antidiabetic; insulinotropic; NIDDM;
 KW non-insulin dependent diabetes mellitus; therapy.
 XX
 OS Homo sapiens.
 XX
 PN Synthetic.
 XX
 PU US6284727-B1.
 XX
 PE 04-SEP-2001.
 XX
 PF 07-JUN-1995; 95US-0472349.
 XX
 PR 25-JAN-1994; 94US-0181655.
 PR 07-APR-1993; 93US-0044133.
 XX
 PA (SCLIO) SCLIOS INC.
 XX
 PI Kim Y, Lambert WJ, Qi H, Gelfand PA, Geophegan KF, Danley DE;
 XX
 DR WPI: 2002-033119/04.
 XX
 PE Compositions useful in treatment of non-insulin dependent diabetes
 PE mellitus comprises peptides and polymer e.g. polysaccharide or
 PT vegetable oil.
 XX
 PS Claim 1(1)(c): Column 47; 42pp; English.
 XX
 CC The present sequence is that of amino acids 7-34 of glucagon-like
 CC peptide 1 (GLP-1). During processing in the pancreas and
 CC intestine, 37-amino acid GLP-1 is converted to 31-amino acid
 CC GLP-1 (7-37). This peptide has insulinotropic activity, i.e. it is
 CC able to stimulate, or cause to be stimulated, the synthesis or
 CC expression of insulin. GLP-1, GLP-1 (7-37) and their derivatives,
 CC including the present peptide, are used in claimed compositions for
 CC prolonged administration in the treatment of non-insulin dependent
 CC diabetes mellitus. The compositions, which also include a polymer
 CC such as a polysaccharide or vegetable oil, enhance insulin action
 CC to achieve sustained glycaemic control.
 CC
 XX Sequence 28 AA:
 SU
 Query Match 99.3%; Score 144; DB 23; Length 28;
 Host Local Similarity 100.0%; Pred. No. 2,1e-14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28
 DB 1 HAEGETSDVSSYLEGQAAKEFIAMLVK 28

Db 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 14

AAK4524 standard; peptide; 29 AA.

AAK4524;

02 DEC-1992 (first entry)

GLP-1 derivative.

Maturity onset diabetes mellitus; MODM; pathogenesis.

Homo sapiens.

US5118666-A.

02-JUN-1992.

05-MAY-1986; 86US-0859928.

05-MAY-1986; 86US-0859928.

26-JAN-1988; 88US-0148517.

01-JUN-1990; 90US-0532111.

(GEHO) GEN HOSPITAL CORP.

Habener JF;

WPI; 1992-208235/25.

New glucagon-like peptide 1 derivatives - have insulinotropic activity and are used to treat diabetes mellitus

Claim 1: Page 20 and Fig 1; 16pp; English.

The sequence given is derived from glucagon-like peptide 1 (GLP-1) and has a higher insulinotropic activity than GLP-1 (1-36) and GLP-1 (1-37). The peptide may be modified to a acid addn. or carboxylic acid addn. salt or lower alkyl ester and amide (lower dialkyl amide) derivative. These modified derivatives have the same insulinotropic activity as the original GLP-1 derivative. These peptides are used in the treatment of maturity onset diabetes mellitus (MODM). They may also be used in the study of MODM pathogenesis. Dosages can be administered intravenously, intramuscularly or subcutaneously.

Sequence 29 AA:

Query Match 99.3%; Score 144; DB 13; length 29;

Host Local Similarity 100.0%; Pred. No. 2.2e-14; Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

Db 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

RESULT 15

AAK45436 standard; protein; 29 AA.

AAK45436;

27-JUN-1994 (first entry)

Insulinotropic derivative.

Insulinotropic; activity; enhancing insulin activity; treatment; type II diabetes.

synthetic.

XX W09325579-A.

XX 23-DEC-1993.

XX 14 APR 1993; 93WO-0503388.

XX 15-JUN-1992; 92US-0899073.

XX (PFI) PFIZER INC.

XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;

XX WPI; 1994-00745/01.

XX New derivs. of glucagon like peptide 1 and insulinotropic - used for enhancing insulin action in a mammal, partic. by iontophoretic admin.

XX Claim 3: Page 20; 32pp; English.

XX The sequence is that of a derivative of insulinotropic which has insulinotropic activity and is useful for enhancing insulin action in a mammal, partic. for treating type II diabetes (claimed). It is partic. suited for delivery to a mammal by iontophoresis.

XX Sequence 29 AA:

Query Match 99.3%; Score 144; DB 15; length 29;

Best Local Similarity 100.0%; Pred. No. 2.2e-14; Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

Db 1 HAEGFTSDVSSYLEGQAARKEFIAMLVK 28

Search completed: May 13, 2003, 09:25:03
Job time : 54.0847 secs

GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: May 13, 2003, 09:54:41 Search time: 18.728 seconds
(without alignments)
45.683 Million cell updates/sec

Title: US-09-868-974-2

Sequence: 1 HAFGTFTSDVSYLPQAAKPIIAMLVKK 29

Scoring table:

Gapop 10.0, Gapext 0.5

Searched: 262574 seqs, 2942222 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database: Issued Patents-AA*
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2: /cgn2_6/prodata/1/1aa/5B-COMB.pep.*
3: /cgn2_6/prodata/1/1aa/5A-COMB.pep.*
4: /cgn2_6/prodata/1/1aa/5B-COMB.pep.*
5: /cgn2_6/prodata/1/1aa/PTTUS-COMB.pep.*
6: /cgn2_6/prodata/1/1aa/backfile1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	144	99.3	28	1	US-08-095-162-4 Sequence 4, Appli
2	144	99.3	28	1	US-08-470-220A-1 Sequence 4, Appli
3	144	99.3	28	3	US-08-967-374-4 Sequence 4, Appli
4	144	99.3	28	4	US-08-472-349-5 Sequence 5, Appli
5	144	99.3	28	4	US-09-209-799B-8 Sequence 8, Appli
6	144	99.3	28	4	US-09-605-941-4 Sequence 4, Appli
7	144	99.3	28	4	US-09-212-663-5 Sequence 5, Appli
8	144	99.3	28	5	US-08-095-162-18 Sequence 21, Appli
9	144	99.3	29	1	US-08-095-162-18 Sequence 18, Appli
10	144	99.3	29	1	US-08-470-220A-18 Sequence 18, Appli
11	144	99.3	29	4	US-08-967-374-18 Sequence 18, Appli
12	144	99.3	29	4	US-08-472-349-4 Sequence 4, Appli
13	144	99.3	29	4	US-09-209-799B-9 Sequence 9, Appli
14	144	99.3	29	4	US-09-505-991-18 Sequence 18, Appli
15	144	99.3	30	1	US-08-095-162-1 Sequence 6, Appli
16	144	99.3	30	1	US-08-470-220A-1 Sequence 1, Appli
17	144	99.3	30	2	US-08-967-374-1 Sequence 1, Appli
18	144	99.3	30	3	US-08-967-374-1 Sequence 1, Appli
19	144	99.3	30	4	US-09-348-136-1 Sequence 5, Appli
20	144	99.3	30	4	US-08-961-405A-5 Sequence 5, Appli
21	144	99.3	30	4	US-09-915-918A-5 Sequence 5, Appli
22	144	99.3	30	4	US-09-342-596-4 Sequence 4, Appli
23	144	99.3	30	4	US-08-472-349-3 Sequence 3, Appli
24	144	99.3	30	4	US-09-343-415-4 Sequence 4, Appli
25	144	99.3	30	4	US-09-585-181A-4 Sequence 4, Appli
26	144	99.3	30	4	US-09-209-799B-10 Sequence 10, Appli
27	144	99.3	30	4	US-09-209-799B-10 Sequence 10, Appli

28	144	99.3	30	4	US-09-975-905-1 Sequence 1, Appli
29	144	99.3	30	4	US-09-505-991-1 Sequence 1, Appli
30	144	99.3	30	4	US-09-573-804-1 Sequence 1, Appli
31	144	99.3	30	4	US-09-303-016-4 Sequence 4, Appli
32	144	99.3	30	4	US-09-212-663-4 Sequence 4, Appli
33	144	99.3	30	5	US-09-15800-27 Sequence 27, Appli
34	144	99.3	31	1	US-08-095-162-1 Sequence 1, Appli
35	144	99.3	31	1	US-08-095-162-1 Sequence 1, Appli
36	144	99.3	31	1	US-08-095-162-1 Sequence 1, Appli
37	144	99.3	31	1	US-08-295-919A-1 Sequence 1, Appli
38	144	99.3	31	1	US-08-470-220A-2 Sequence 2, Appli
39	144	99.3	31	2	US-08-807-263-3 Sequence 3, Appli
40	144	99.3	31	3	US-08-967-374-2 Sequence 2, Appli
41	144	99.3	31	3	US-08-967-374-2 Sequence 2, Appli
42	144	99.3	31	4	US-08-961-405A-1 Sequence 1, Appli
43	144	99.3	31	4	US-09-258-750-3 Sequence 3, Appli
44	144	99.3	31	4	US-09-258-750-3 Sequence 3, Appli
45	144	99.3	31	4	US-08-915-918A-1 Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-08-095-162-4
Sequence 4, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 1100 No. 5512459 West Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25

APPLICATION DATA:

APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.
REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid

MOLECULE TYPE: Peptide

IMMEDIATE SOURCE:
CLONE: GIPI (7-34)

Query Match 99.4%, Score 144, EB 1, Length 28;
Best Local Similarity 100.0%, Pred. No. 1, File 14,
Matches 28; Conservative 0; Mismatches 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 2

US-08-470 220A-4
Sequence 4, Application US/08470220A
Patent No. 5707826

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5707826west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1 0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08470,220A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/095,162
FILING DATE: 20-JUL-1993
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659

REFERENCE/DOCKET NUMBER: 8648.32-US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
US-08 470-220A-4

Query Match 99.3%; Score 144; DB 1; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 3

US-08-967-374-4
Sequence 4, Application US/08967374
Patent No. 6037143

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane

TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6037143west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1 0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
US-08-967-374-4

Query Match 99.3%; Score 144; DB 3; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFLIAMIWK 28

RESULT 4

US-08-472-349-5
Sequence 5, Application US/08472349
Patent No. 6284727

GENERAL INFORMATION:

APPLICANT: Kim, Yesook
APPLICANT: Lambert, William J.
APPLICANT: OI, Hong
APPLICANT: Gelland, Robert A.
APPLICANT: Geoghagan, Kieran F.
APPLICANT: Danley, Dennis E.
TITLE OF INVENTION: Prolonged Delivery of Peptides
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pfizer Inc
STREET: 235 East 42nd Street, 20th Floor
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10017-5755

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25

Genetic version 5.1.4.5.4578
Copyright (c) 1993 - 2003 Compugen Ltd

OM protein - protein search, using sw model

Run on May 13, 2003, 09:27:17, Search time: 14.7458 seconds
(without alignments)
180,984 Million cell updates/sec

Title: US-09-868-974-2

Perfect score: 145

Sequence: 1 HAEGLTSDVSSYLHQAQAKETIAMLVKX 29

Scoring table:

RW/STIM62
Gapop 10.0, Gapext 0.5

Searched: 349150 seqs, 92025710 residues

Total number of hits satisfying chosen parameters: 349150

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database:

Published_Applications_AA:*

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4: /cgn2_6/ptodata/2/pubpaa/US06_PPTCOMB pep.*
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7: /cgn2_6/ptodata/2/pubpaa/PTCTUS_PPTCOMB pep.*
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12: /cgn2_6/ptodata/2/pubpaa/US10_PPTCOMB pep.*
13: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB pep.*
14: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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2	144	99.3	28	9	US-10-169-657-6
3	144	99.3	29	9	US-09-834-229A-3
4	144	99.3	29	9	US-09-997-792-9
5	144	99.3	29	9	US-10-169-657-7
6	144	99.3	30	9	US-10-125-255-1
7	144	99.3	30	9	US-09-834-229A-5
8	144	99.3	30	9	US-09-997-792-10
9	144	99.3	30	9	US-10-091-258-4
10	144	99.3	30	10	US-09-851-738-4
11	144	99.3	30	10	US-09-805-507-4
12	144	99.3	30	10	US-09-859-804-4
13	144	99.3	30	10	US-09-982-978-4
14	144	99.3	30	10	US-09-953-021B-4
15	144	99.3	30	12	US-10-072-540A-1
16	144	99.3	31	9	US-09-834-229A-1
17	144	99.3	31	9	US-09-997-792-1
18	144	99.3	31	9	US-10-093-958-1
19	144	99.3	31	9	US-10-169-657-1

20	144	99.3	31	9	US-10-169-657-36	Sequence 36, Appl
21	144	99.3	31	9	US-10-091-258-3	Sequence 3, Appl
22	144	99.3	31	10	US-09-754-723-1	Sequence 1, Appl
23	144	99.3	31	10	US-09-420-785A-3	Sequence 2, Appl
24	144	99.3	31	10	US-09-876-488-2	Sequence 17, Appl
25	144	99.3	31	10	US-09-876-488-17	Sequence 27, Appl
26	144	99.3	31	10	US-09-876-488-27	Sequence 28, Appl
27	144	99.3	31	10	US-09-876-488-28	Sequence 3, Appl
28	144	99.3	31	10	US-09-851-738-3	Sequence 3, Appl
29	144	99.3	31	10	US-09-805-507-3	Sequence 3, Appl
30	144	99.3	31	10	US-09-859-804-3	Sequence 3, Appl
31	144	99.3	31	10	US-09-982-978-3	Sequence 3, Appl
32	144	99.3	31	10	US-09-953-021B-3	Sequence 3, Appl
33	144	99.3	31	12	US-10-072-540A-1	Sequence 1, Appl
34	144	99.3	35	9	US-09-943-084-1	Sequence 1, Appl
35	144	99.3	36	9	US-10-091-258-2	Sequence 2, Appl
36	144	99.3	36	10	US-09-851-738-2	Sequence 2, Appl
37	144	99.3	36	10	US-09-805-507-2	Sequence 2, Appl
38	144	99.3	36	10	US-09-859-804-2	Sequence 2, Appl
39	144	99.3	36	10	US-09-982-978-2	Sequence 2, Appl
40	144	99.3	36	10	US-09-953-021B-2	Sequence 2, Appl
41	144	99.3	37	9	US-10-091-258-1	Sequence 1, Appl
42	144	99.3	37	10	US-09-420-785A-2	Sequence 1, Appl
43	144	99.3	37	10	US-09-876-388-1	Sequence 1, Appl
44	144	99.3	37	10	US-09-876-388-16	Sequence 16, Appl
45	144	99.3	37	10	US-09-876-388-25	Sequence 25, Appl

ALIGNMENTS

RESULT 1
US-09-997-792-8
Sequence 8, Application US/09997792
Publication No. US20030045464A1
GENERAL INFORMATION:
APPLICANT: Heilmann, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: ginseng-like peptide-1 crystals
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/01/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
LENGTH: 28
TYPE: PPT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-8

Query Match: 99.3%, Score 144, DB 9, Length 28;
Best local Similarity 100.0%, Pred. No. 4.2e-15;
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0;

DB 1 HAEGLTSDVSSYLHQAQAKETIAMLVKX 28
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US-10-169-657-6
Sequence 6, Application US/10169657
Publication No. US20030060412A1
GENERAL INFORMATION:
APPLICANT: Eli Lilly and Company
TITLE OF INVENTION: Process for Solubilizing Ginseng-Like Peptide 1 Compounds
FILE REFERENCE: X-11708
CURRENT APPLICATION NUMBER: US/10/169,657
CURRENT FILING DATE: 2002-08-28
PRIORITY APPLICATION NUMBER: US 60/178,438

PRIOR FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/224,058
PRIOR FILING DATE: 2000-08-09
NUMBER OF SEQ ID NOS: 46
SOFTWARE: Patent in version 3.0
SEQ ID NO 6
LENGTH: 28
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: VARIANT
LOCATION: (1)..(28)
OTHER INFORMATION: The last 3 amino acids of GLP-1 (7-37) are deleted
US-10-169-657-6

Query Match 99.3%; Score 144; DB 9; Length 28;
Best Local Similarity 100.0%; Pred. No. 4.3e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
|||||

RESULT 3
US-09-834-229A-3
Sequence 3, Application US/09834229A
Publication No. US2003002823A1
GENERAL INFORMATION:
APPLICANT: Enderby, Sued
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-10
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patent in version 3.1
SEQ ID NO 3
LENGTH: 29
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: MISC FEATURE
LOCATION: (29)..(29)
OTHER INFORMATION: Xaa at position 29 is absent or Gly.
US-09-834-229A-3

Query Match 99.3%; Score 144; DB 9; Length 29;
Best Local Similarity 100.0%; Pred. No. 4.3e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
|||||

RESULT 4
US-09-997-792-9
Sequence 9, Application US/0997792
Publication No. US20030045464A1
GENERAL INFORMATION:
APPLICANT: Hermeling, Ronald
APPLICANT: Hoffmann, James
APPLICANT: Narasimhan, Chakravarthy
TITLE OF INVENTION: GLUCAGON LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792

CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patent in version 3.0
SEQ ID NO 9
LENGTH: 29
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-9

Query Match 99.3%; Score 144; DB 9; Length 29;
Best Local Similarity 100.0%; Pred. No. 4.3e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
|||||

RESULT 5
US-10-169-657-7
Sequence 7, Application US/10169657
Publication No. US20030060412A1
GENERAL INFORMATION:
APPLICANT: Eli Lilly and Company
TITLE OF INVENTION: Process for solubilizing Glucagon-like peptide 1 Compounds
FILE REFERENCE: X-11708
CURRENT APPLICATION NUMBER: US/10/169,657
CURRENT FILING DATE: 2003-06-28
PRIOR APPLICATION NUMBER: US 60/178,438
PRIOR FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/224,058
PRIOR FILING DATE: 2000-08-09
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patent in version 3.0
SEQ ID NO 7
LENGTH: 29
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: VARIANT
LOCATION: (1)..(29)
OTHER INFORMATION: The last 2 amino acids of GLP-1 (7-37) are deleted
US-10-169-657-7

Query Match 99.3%; Score 144; DB 9; Length 29;
Best Local Similarity 100.0%; Pred. No. 4.3e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 HAEGETSDVSSYLEGQAKEFIAMLVK 28
|||||

RESULT 6
US-10-125-255-1
Sequence 1, Application US/10125255
Patent No. US20020165342A1
GENERAL INFORMATION:
APPLICANT: Galoway, John A
APPLICANT: Hoffmann, James A
TITLE OF INVENTION: Glucagon-like Insulinotropic Peptides, Compositions and Methods
FILE REFERENCE: X-9332E
CURRENT APPLICATION NUMBER: US/10/125,255
CURRENT FILING DATE: 2002-04-17
PRIOR APPLICATION NUMBER: 09/573,809
PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patent in version 3.1
SEQ ID NO 1

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/472,349
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/181,655
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Sheyke, Robert F.
REGISTRATION NUMBER: 31,304
REFERENCE/DOCKET NUMBER: PC8391
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)573-1189
TELEFAX: (212)573-1939
TELEX: N/A
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHEICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: N/A
STRAIN: N/A
INDIVIDUAL ISOLATE: N/A
HAPLOTYPE: N/A
CELL LINE: N/A
IMMEDIATE SOURCE:
LIBRARY: N/A
CLONE: N/A
POSITION IN GENOME:
CHROMOSOME/SEGMENT: N/A
MAP POSITION: N/A
US-08-472-349-5

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 5
US-09-209-799D-8
Sequence 8, Application US/09/209799D
Patent No. 6380357
GENERAL INFORMATION:
APPLICANT: Hermeling, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUTARON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/209,799D
CURRENT FILING DATE: 1998-12-11
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patent version 3.0
SEQ ID NO 8
LENGTH: 28
TYPE: PRT
ORGANISM: Artificial
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-209-799D-8

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 6
US-09-505-991-4
Sequence 4, Application US/09505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
Stout, Jay
Henriksen, Dennis
Partridge, Bruce
Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merchant & Gould
STREET: 3100 No. 6403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.10
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: Unknown
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: Unknown
ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-USD1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 (7-34)
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-505-991-4

Query Match 99.3% Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLPGQAAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAMLVK 28

RESULT 7
US-09-212-663-5
Sequence 5, Application US/09212663
Patent No. 6461834
GENERAL INFORMATION:
APPLICANT: DORRADDY, Dan
APPLICANT: STOUT, Jay S.
APPLICANT: STRYDOM, Daniel J.

APPLICANT: HOLMQUIST, Barton
APPLICANT: WAGNER, Fred W.
TITLE OF INVENTION: ENZYMATIC AMIDATION OF PEPTIDES
FILE REFERENCE: 089187/0162
CURRENT APPLICATION NUMBER: US/09/212,663
CURRENT FILING DATE: 1998-12-16
PRIOR APPLICATION NUMBER: US 60/107,311
PRIOR FILING DATE: 1998-11-06
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 28
TYPE: PRT
ORGANISM: Escherichia coli
US-09-212-663-5

Query Match 99.3%; Score 144; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAARFIAMLVK 28
DB 1 HAEFTSDVSSYLEGQAARFIAMLVK 28

RESULT 8
PCT-US95-15800-21

Sequence 21, Application PC/TU9515800
GENERAL INFORMATION:

APPLICANT: Atomskaska, Inc.

TITLE OF INVENTION: PRODUCTION OF PEPTIDES USING
NUMBER OF SEQUENCES: 33

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould

STREET: 1100 Northwest Center, 90 S. 7th Street

CITY: Minneapolis

STATE: MN

COUNTRY: U.S.A.

ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: diskette

OPERATING SYSTEM: DOS

SOFTWARE: FASTSEQ Version 1.5

CURRENT APPLICATION DATA:

APPLICATION NUMBER: PCT/US95/15800

FILING DATE: 07-DEC-1995

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/350,530

FILING DATE: 07-DEC-1994

ATTORNEY/AGENT INFORMATION:

NAME: Carter, Charles G

REGISTRATION NUMBER: 35,093

REFERENCE/DOCKET NUMBER: 8648.45USWO

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612/332-5300

TELEFAX: 612/332-9081

TELEX:

INFORMATION FOR SEQ ID NO: 21:

SEQUENCE CHARACTERISTICS:

LENGTH: 28 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

HYPOTHETICAL: NO

ANTI-SENSE: NO

FRAGMENT TYPE: internal

ORIGINAL SOURCE:

PCT-US95-15800-21

Query Match 99.3%; Score 144; DB 5; Length 28;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAARFIAMLVK 28
DB 1 HAEFTSDVSSYLEGQAARFIAMLVK 28

RESULT 9
US-08-095-162-18

Sequence 18, Application US/08095162
Patent No. 5512459

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.

APPLICANT: Stout, Jay

APPLICANT: Henriksen, Dennis

APPLICANT: Partridge, Bruce

APPLICANT: Manning, Shane

TITLE OF INVENTION: Enzymatic Method for Modification of

NUMBER OF SEQUENCES: 26

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould

STREET: 3100 No. 5512459west Center

CITY: Minneapolis

STATE: MN

COUNTRY: USA

ZIP: 55402

COMPUTER READABLE FORM:

MEDIUM TYPE: floppy disk

OPERATING SYSTEM: IBM PC compatible

SOFTWARE: Patent Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/095,162

FILING DATE: 20-JUL-1993

CLASSIFICATION: 514

ATTORNEY/AGENT INFORMATION:

NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659

REFERENCE/DOCKET NUMBER: 8648.32-US01

TELECOMMUNICATION INFORMATION:

TELEPHONE: 612-332-5300

TELEFAX: 612-332-9081

INFORMATION FOR SEQ ID NO: 18:

SEQUENCE CHARACTERISTICS:

LENGTH: 29 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

US-08-095-162-18

Query Match 99.3%; Score 144; DB 1; Length 29;
Best Local Similarity 100.0%; Pred. No. 1.1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEFTSDVSSYLEGQAARFIAMLVK 28
DB 1 HAEFTSDVSSYLEGQAARFIAMLVK 28

RESULT 10
US-08-470-220A-18

Sequence 18, Application US/08470220A

Patent No. 5707826

GENERAL INFORMATION:

APPLICANT: Wagner, Fred W.

APPLICANT: Stout, Jay

APPLICANT: Henriksen, Dennis

APPLICANT: Partridge, Bruce

APPLICANT: Manning, Shane

TITLE OF INVENTION: Enzymatic Method for Modification of

LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: MOD_RES
LOCATION (10)
OTHER INFORMATION: The arginine residue at position 30 is modified so as to replace
OTHER INFORMATION: the terminal carboxyl group with an amine.
US-10-125-255-1

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 7
US-09-834-229A-5
Sequence 5, Application US/09834229A
Publication No. US2003002823A1
GENERAL INFORMATION:
APPLICANT: Etefendi, Suad
TITLE OF INVENTION: USE OF GIP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 5
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-834-229A-5

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 8
US-09-997-792-10
Sequence 10, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:
APPLICANT: Hermeleing, Ronald
APPLICANT: Hoffmann, James
APPLICANT: Narasimhan, Chakravarthy
TITLE OF INVENTION: GUSACON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-10

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 9
US-10-091-258-4
Sequence 4, Application US/10091258
Publication No. US20030073626A1
GENERAL INFORMATION:
APPLICANT: Hathaway, David R
APPLICANT: Coolidge, Thomas R
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING PERIPHERAL VASCULAR DISEASE
FILE REFERENCE: RCN-2
CURRENT APPLICATION NUMBER: US/10/091,258
CURRENT FILING DATE: 2002-03-05
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: mammalian
US-10-091-258-4

Query Match 99.3%; Score 144; DB 9; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 10
US-09-851-738-4
Sequence 4, Application US/09851738
Patent No. US20020055460A1
GENERAL INFORMATION:
APPLICANT: Coolidge, Thomas R.
APPLICANT: Ehlers, Mario R.W.
TITLE OF INVENTION: Metabolic Intervention with GIP-1 to Improve the Function of
FILE REFERENCE: P03660DS1
CURRENT APPLICATION NUMBER: US/09/851,738
CURRENT FILING DATE: 2001-05-09
PRIOR APPLICATION NUMBER: 09/302,596
PRIOR FILING DATE: 1999-04-30
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: mammalian
US-09-851-738-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4.5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
DB 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28

RESULT 11
US-09-805-507-4
Sequence 4, Application US/09805507
Patent No. US20020098195A1

GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/805,507
PRIOR FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 09/859,804
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-805-507-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28
DB 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28

RESULT 12
US-09-859-804-4
Sequence 4, Application US/09859804
Patent No. US20020107206A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/859,804
PRIOR FILING DATE: 2001-03-14
PRIOR APPLICATION NUMBER: 60/205,239
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-859-804-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28
DB 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28

RESULT 13
US-09-982-978-4
Sequence 4, Application US/09982978
Patent No. US20020146405A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
FILE REFERENCE: 089187/0395
CURRENT APPLICATION NUMBER: US/09/982,978
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-982-978-4

PRIOR APPLICATION NUMBER: 09/859,804
PRIOR FILING DATE: 2001-05-18
PRIOR APPLICATION NUMBER: 60/205,239
PRIOR FILING DATE: 2000-05-19
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Unknown Organism
FEATURE:
OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
US-09-982-978-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28
DB 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28

RESULT 14
US-09-953-021B-4
Sequence 4, Application US/09953021B
Patent No. US20020147131A1
GENERAL INFORMATION:
APPLICANT: COOLIDGE, THOMAS R.
TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
FILE REFERENCE: P03660056
CURRENT APPLICATION NUMBER: US/09/953,021B
PRIOR FILING DATE: 2001-09-11
PRIOR APPLICATION NUMBER: 09/302,596
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Homo sapiens
US-09-953-021B-4

Query Match 99.3%; Score 144; DB 10; Length 30;
Best Local Similarity 100.0%; Pred. No. 4,5e-15;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28
DB 1 HAEGETSDVSSYLEGQAKKEFIAMLVK 28

RESULT 15
US-10-072-540A-4
Sequence 4, Application US/10072540A
Patent No. US20020123466A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLP-1 FORMULATIONS
FILE REFERENCE: X-11368A
CURRENT APPLICATION NUMBER: US/10/072,540A
PRIOR FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US 60/067,600
NUMBER OF SEQ ID NOS: 5
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: Homo sapiens

```

: TITLE OF INVENTION: Recombinant Polypeptides
: NUMBER OF SEQUENCES: 26
: CORRESPONDENCE ADDRESS:
: ADDRESSER: Merchant & Gould
: STREET: 3100 No. 5707826west Center
: CITY: Minneapolis
: STATE: MN
: COUNTRY: USA
: ZIP: 55402
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent In Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/470,220A
: FILING DATE: 06-JUN-1995
: CLASSIFICATION: 435
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: US 08/095,162
: FILING DATE: 20-JUL-1993
: ATTORNEY/AGENT INFORMATION:
: NAME: Nelson, Albin J.
: REGISTRATION NUMBER: 28,659
: REFERENCE/DOCKET NUMBER: 8648.32-US01
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 612-332-5300
: TELEFAX: 612-332-9081
: INFORMATION FOR SEQ ID NO: 18:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: US-08-470-220A-18

Query Match          99.3%  Score 144:  DB 1:  Length 29:
Best Local Similarity 100.0%  Prid No. 1.1e-14:
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0:

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RHS00.11
US-08-967-374-18
: Sequence 18, Application US/08967374
: Patent No. 6037143
: GENERAL INFORMATION:
: APPLICANT: Wagner, Fred W.
: APPLICANT: Stout, Jay
: APPLICANT: Henriksen, Dennis
: APPLICANT: Partridge, Bruce
: APPLICANT: Manning, Shane
: TITLE OF INVENTION: Enzymatic Method for Modification of
: TITLE OF INVENTION: Recombinant Polypeptides
: NUMBER OF SEQUENCES: 26
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Merchant & Gould
: STREET: 3100 No. 6037143west Center
: CITY: Minneapolis
: STATE: MN
: COUNTRY: USA
: ZIP: 55402
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent Release #1.0, Version #1.30
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/967,374
: FILING DATE:

```

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: CLASSIFICATION:
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: 08/520,485
: FILING DATE: 29-AUG-1995
: ATTORNEY/AGENT INFORMATION:
: NAME: Carter, Charles G.
: REGISTRATION NUMBER: 35,093
: REFERENCE/DOCKET NUMBER: 8648.32-US01
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 612-332-5300
: TELEFAX: 612-332-9081
: INFORMATION FOR SEQ ID NO: 18:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: US-08-967-374-18

Query Match          99.3%  Score 144:  DB 3:  Length 29:
Best Local Similarity 100.0%  Prid No. 1.1e-14:
Matches 28, Conservative 0, Mismatches 0, Indels 0, Gaps 0:

QY 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28
DB 1 HAEGFTSDVSSYLEGQAKEFIAMLVK 28

RESULT 12
US-08-472-349-4
: Sequence 4, Application US/08472349
: Patent No. 6284727
: GENERAL INFORMATION:
: APPLICANT: Kim, Yesook
: APPLICANT: Lambert, William J.
: APPLICANT: Qi, Hong
: APPLICANT: Gelland, Robert A.
: APPLICANT: Geobeghan, Kieran F.
: APPLICANT: Danley, Dennis R.
: TITLE OF INVENTION: Prolonged Delivery of Peptides
: NUMBER OF SEQUENCES: 7
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Pfizer Inc
: STREET: 235 East 42nd Street, 20th Floor
: CITY: New York
: STATE: New York
: COUNTRY: U.S.A.
: ZIP: 10017-5755
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent Release #1.0, Version #1.25
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/472,349
: FILING DATE:
: CLASSIFICATION: 514
: PRIORITY APPLICATION DATA:
: APPLICATION NUMBER: US/08/181,655
: FILING DATE:
: ATTORNEY/AGENT INFORMATION:
: NAME: Sheyka, Robert F.
: REGISTRATION NUMBER: 31,304
: REFERENCE/DOCKET NUMBER: PC8391
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: (212)573-1189
: TELEFAX: (212)573-1939
: TELETYPE: N/A
: INFORMATION FOR SEQ ID NO: 4:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 29 amino acids
: TYPE: amino acid
: STRANDEDNESS: single

```

TOPOLGY: linear
MOLECULE TYPE: peptide
HYDROPHETICAL: NO
ANTI SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: N/A
STRAIN: N/A
INDIVIDUAL ISOLATE: N/A
HAPLOTYPE: N/A
CELL LINE: N/A
IMMEDIATE SOURCE:
LIBRARY: N/A
CLONE: N/A
POSITION IN GENOME:
CHROMOSOME/SEGMENT: N/A
MAP POSITION: N/A
US-08-472-149-4

Query Match 99.3%; Score 144; DB 4; Length 29;
Host Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Caps 0;

QY 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28
DB 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28

RESULT 13
US-09-209-7990-9
Sequence 9; Application US/09207990
Patent No. 6480357
GENERAL INFORMATION:
APPLICANT: Hoffmann, Ronald
APPLICANT: Hoffmann, James
APPLICANT: Narasimhan, Chakravarti
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/209,7990
CURRENT FILING DATE: 1998-12-11
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 9
LENGTH: 29
TYPE: PRT
ORGANISM: Artificial
PIVOT: 1
OTHER INFORMATION: synthetic construct
US-09-209-7990-9

Query Match 99.3%; Score 144; DB 4; Length 29;
Host Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Caps 0;

QY 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28
DB 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28

RESULT 14
US-09-505-991-18
Sequence 18; Application US/09505991
Patent No. 6403361
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Hentiksen, Dennis
APPLICANT: Partidge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:

ADDRESSEE: Merchant & Gould
STREET: 3100 No. 5403361west Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/505,991
FILING DATE: 17-Feb-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:
NAME: Carter, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/DOCKET NUMBER: 8648.32-US01
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
TOPOLGY: linear
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-505-991-18

Query Match 99.3%; Score 144; DB 4; Length 29;
Host Local Similarity 100.0%; Pred. No. 1,1e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Caps 0;

QY 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28
DB 1 HAEFTSDVSSYLEGQAKEFIAMLYK 28

RESULT 15
US-08-066-480-6
Sequence 6; Application US/08066480
Patent No. 5424286
GENERAL INFORMATION:
APPLICANT: Eng, John
TITLE OF INVENTION: Pharmaceutical Compositions And Use of
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allegretti & Wilcoff, Ltd.
STREET: 10 S. Wacker Drive
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606

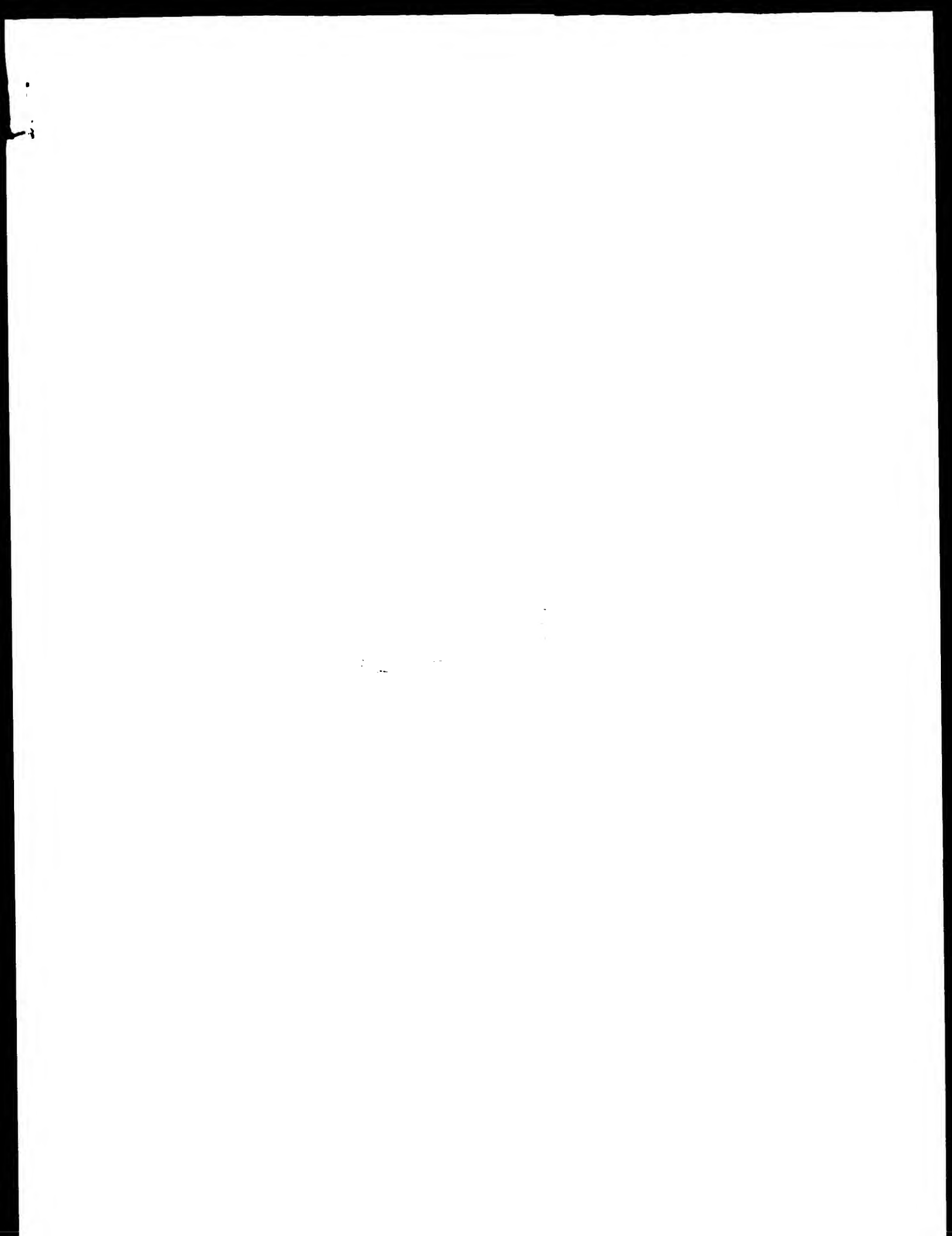
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/066,480
FILING DATE: 24-MAR-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: McDonnell, John J.
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 93,084
TELECOMMUNICATION INFORMATION:

: TELEPHONE: 312-715-1000
 : TELEFAX: 312-715-1234
 : INFORMATION FOR SEQ ID NO: 6:
 : SEQUENCE CHARACTERISTICS:
 : LENGTH: 30 amino acids
 : TYPE: amino acid
 : STRANDEDNESS: single
 : TOPOLOGY: linear
 : MOLECULE TYPE: peptide
 : FEATURE:
 : NAME/KEY: Peptide
 : LOCATION: 1..30
 : OTHER INFORMATION: /label=GLP-1-7-36
 : OTHER INFORMATION: /note="GLP-1(7-36) fragment."
 US-08-066-480-6

Query Match 99.3%, Score 144, DB 1, Length 30,
 Best Local Similarity 100.0%, Pred. No. 1, 2e-14,
 Matches 28: Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAAGTFTSDVSSYLEGQAAKEFIAWLIVK 28
 |||||
 DB 1 HAAGTFTSDVSSYLEGQAAKEFIAWLIVK 28

Search completed: May 13, 2003, 09:34:10
 Job time: 20.678 secs

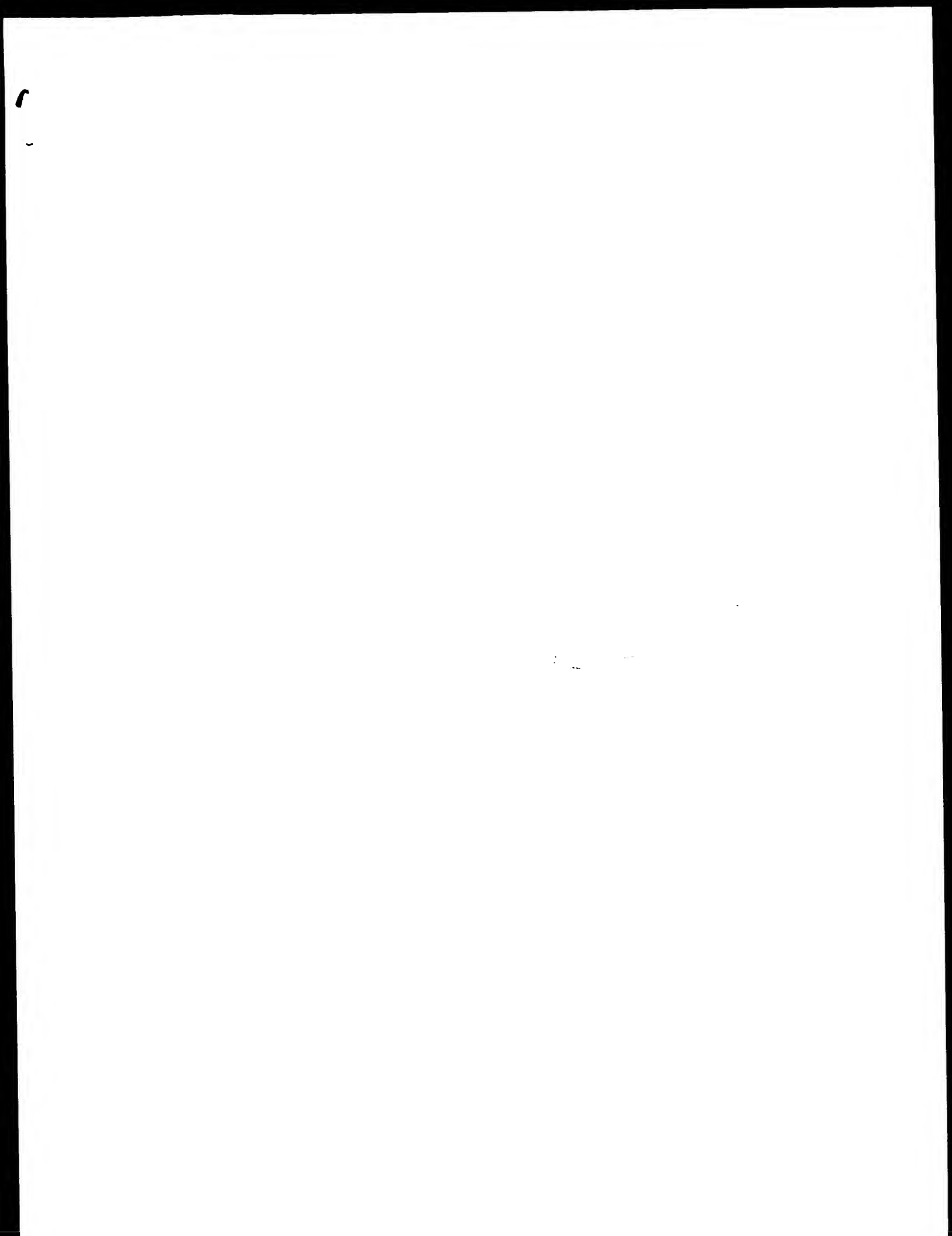


FEATURE:
 NAME/KEY: MOD_RES
 LOCATION: (30) (30)
 OTHER INFORMATION: AMINATION
 US-10-072-340A-4

Query Match: 99.38; Score 144; BH 12; Length 30;
 Best Local Similarity 100.00; Pred. No. 4.5e-15;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAKERIAMLVK 28
 ||||||||||||||||||
 DB 1 HAEGFTSDVSSYLEGQAKERIAMLVK 28

Search completed: May 13, 2003, 09:36:46
 Job time: 14.7458 secs



GenCore version 5.1.4.P5_4578
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nm protein - protein search, using sw model

Run on: May 13, 2003, 09:13:33; Search time 26.0508 seconds
(without alignments)
107.018 Million cell updates/sec

Title: US-09-868-974-2

Perfect score: 145

Sequence: 1 HAEGFTSDVSSYLEGQAKKEFIAMLVKX 29

Scoring table: BIOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283224 seqs, 9634422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: PIR_73**
1: pir1**
2: pir2**
3: pir3**
4: pir4**

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution

SUMMARIES

Result No	Score	Query Match	Length	DR	ID	Description
1	144	99.3	158	1	GCPG	glucagon precursor
2	144	99.3	180	1	GCHU	glucagon precursor
3	144	99.3	180	1	GCPD	glucagon precursor
4	144	99.3	180	1	GCPPTM	glucagon precursor
5	144	99.3	180	1	GCBT	glucagon precursor
6	144	99.3	180	1	GCHV	glucagon precursor
7	144	99.3	180	1	GCHV	glucagon precursor
8	144	99.3	180	2	AS7294	glucagon precursor
9	132	91.0	151	1	GCHH	glucagon precursor
10	132	91.0	206	2	IS1301	proglucagon
11	118	81.4	30	2	B41125	glucagon-like pep
12	118	81.4	30	2	B41125	glucagon-like pep
13	118	81.4	101	1	GCPD	glucagon precursor
14	112	77.2	63	1	GCHV	glucagon precursor
15	112	77.2	122	1	GCAFP2	glucagon precursor
16	110	75.9	72	1	GCHV	glucagon precursor
17	109	75.2	66	2	IS1093	glucagon precursor
18	109	75.2	178	2	IS1058	glucagon precursor
19	109	75.2	178	2	IS1057	glucagon precursor
20	104	71.7	30	2	S44473	glucagon-like pep
21	104	71.7	60	1	GCHV	glucagon precursor
22	97	66.9	29	2	S07211	glucagon precursor
23	97	66.9	87	1	GCHV	glucagon precursor
24	95	65.5	29	1	GCHV	glucagon precursor
25	95	64.1	29	1	GCHV	glucagon precursor
26	93	64.1	124	1	GCHV	glucagon precursor
27	90	62.1	29	2	GCHV	glucagon precursor
28	90	62.1	29	2	A91740	glucagon precursor
29	90	62.1	29	2	A91741	glucagon precursor

ALIGNMENTS

RESULT 1

GCPC

glucagon precursor - pig (fragment)

N:Alternate names: glucenin; glucagon; oxyntomodulin

N:Contains: glucenin-related peptides, glucagon; glucagon-37 (oxyntomodulin); glucag

C:Species: Sus scrofa domestica (domestic pig)

C:Date: 17 Dec 1982 #sequence revision 31-Mar-1993 #ext-change 20-Mar-1998

C:Accession: A01540; A60312; A91781; B32614; A28064

R:Title: L.; Moody, A. I

Regul Pept 2, 130-150, 1981

A:Title: The primary structure of porcine glucenin (proglucagon).

A:Reference number: A94233; M01D:81248172; PMID:6894800

A:Accession: A01540

A:Molecule type: protein

A:Residues: 1-69 <TH>

R:Title: L.; Moody, A. I.

Regul Pept Suppl 2, S33, 1983

A:Title: Primary structure of a possible porcine proglucagon fragment.

A:Reference number: A60312

A:Accession: A01540

A:Molecule type: protein

A:Residues: 1-69 <TH>

A:Note: this peptide is co-secreted with glucagon from the pancreas

R:Title: W. J. Sim, L. G. J. Bohrens, O. K.

J. Am. Chem. Soc. 79, 2807-2810, 1957

A:Title: The amino acid sequence of glucagon. V. Location of amide groups, acid degr

A:Reference number: A91781

A:Accession: A91781

A:Molecule type: protein

A:Residues: 1-69 <TH>

R:Title: C.; Belsanti, M.; Johnson, A. H.; Hujar, P.; Holst, J. J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small inte

A:Reference number: A92755; M01D:84372746; PMID:2753690

A:Accession: B32614

A:Molecule type: protein

A:Residues: 78-107 <CH>

R:Title: T.; Thim, L.; Kolod, H.; Orskov, C.; Hartling, H.; Holst, J. J.

J. Biol. Chem. 264, 4641-4644, 1989

A:Title: Naturally occurring products of proglucagon 111-150 in the porcine and huma

A:Reference number: A28064; M01D:85240112; PMID:3370066

A:Accession: A28064

A:Molecule type: protein

A:Residues: 111-158 <CH>

C:Comment: X's represent missing amino acids, mostly basic, that are predicted to be

C:Superfamily: glucagon

C:Keywords: amidated; ratexyl; end; carbohydrate metabolism; differentiation; hormone; in

F:1-69/Product: glucagon-69 #status experimental <CH>

F:1-30/Product: glucenin-related peptide #status experimental

F:33-69/Product: glucagon-37 #status predicted <CH>

F:33-61/Product: glucagon #status experimental <CH>

F:78-107/Product: glucagon like peptide 1 #status experimental <CH>

glucagon - Arabian

glucagon - common

glucagon G2 - Not

glucagon-69 - dog

glucagon - duck

glucagon - estrich

glucagon - slider

glucagon I - Europ

glucagon G1 - Not

glucagon - Chinc

glucagon - Europe

glucagon - bioge

glucagon - bowlin

exendin-4 - Glia

exendin-3 - Mexica

glucagon-36 - spot

F:126-158/Product: glucagon-like peptide 2 *status experimental <GL2>
F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91

Query Match 99.18% Score 144; DB 1; Length 158,
Best Local Similarity 100.0%; Pred. No. 1,3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
|||||
DB 78 HAEGFTSDVSSYLEGQAAKEFIAWLK 105

RESULT 2

glucagon precursor [validated] - human
N:Contains: glicentin; glicentin-related polypeptide (GRPP), glucagon, glucagon-like peptide 1 (GLP1)
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence-revision 31-Mar-1993 #text-change 08-Dec-2000
C:Accession: A24377; A44197; A30875; A32614; A01541; S23309

M:White, J.W.; Saunders, G.F.
Nucleic Acids Res. 14, 4719-4730, 1986

A:Title: Structure of the human glucagon gene.

A:Reference number: A24377; MUID:86259053; PMID:3725587

A:Accession: A24377

A:Molecule type: DNA

A:Residues: 1-180 <DNA>

A:Cross-references: GR:003991

R:Bohl, C.I.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, K.C.
Nature 304, 368-371, 1983

A:Title: Exon duplication and divergence in the human preproglucagon gene.

A:Reference number: A44197; MUID:83271477; PMID:6877358

A:Accession: A44197

A:Molecule type: DNA

A:Residues: 1-179 <DNA>

A:Cross-references: GR:001515; NID:911777; PTDN:GAA24759.1; PTD:913178

R:Drucker, D.J.; Asa, S.

J. Biol. Chem. 263, 13475-13478, 1988

A:Title: Glucagon gene expression in vertebrate brain.

A:Reference number: A30875; MUID:88330860; PMID:2901414

A:Accession: A30875

A:Molecule type: mRNA

A:Residues: 1-180 <DNA>

A:Cross-references: GR:004949; NID:9183269; PTDN:AA52567.1; PTD:9183270

R:Koskov, C.; Hersant, M.; Johnson, A.H.; Hojrup, P.; Holst, J.J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine

A:Reference number: A92732; MUID:89327238; PMID:2753890

A:Accession: A32614

A:Molecule type: protein

A:Residues: 98-127 <ORF>

R:Thomson, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.

FEBS Lett. 21, 315-319, 1972

A:Title: The amino acid sequence of human glucagon.

A:Reference number: A91373

A:Accession: A01541

A:Molecule type: protein

A:Residues: 53-81 <THO>

R:Tsuqita, A.; Takamoto, K.; Kamu, M.; Iwade, H.

Eur. J. Biochem. 206, 691-696, 1992

A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis

A:Reference number: S23188; MUID:92298996; PMID:1606956

A:Accession: S23309

A:Molecule type: protein

A:Residues: 53-81 <THO>

C:Comment: In pancreatic alpha-cells, proglucagon is processed to glicentin-related polypeptide 1, glucagon

and insulin.

C:Genetics:

A:Gene: GGN, GCG

A:Cross-references: GDB:119265; OMIM:138030

A:Map position: 2q46-q47

A:Initiators: 31/2; 85/2; 131/2; 179/2

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; intestine

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status experimental <PG>

F:21-89/Product: glicentin #status experimental <GIN>

F:21-50/Product: glicentin-related polypeptide #status predicted <GRPP>

F:53-89/Product: oxyntomodulin #status experimental <OXN>

F:53-81/Product: glucagon #status experimental <GCN>

F:92-178/Product: major proglucagon fragment #status experimental <MPGF>

F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:98-127/Product: truncated glucagon-like peptide 1 #status experimental <TL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91

Query Match 99.3%; Score 144; DB 1; Length 180;
Best Local Similarity 100.0%; Pred. No. 1,3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
|||||
DB 98 HAEGFTSDVSSYLEGQAAKEFIAWLK 125

RESULT 3

glucagon precursor - guinea pig
N:Alternate names: oxyntomodulin
N:Contains: glicentin-related peptide; glucagon; glucagon 37 (oxyntomodulin); glucagon

C:Species: Cavia porcellus (guinea pig)

C:Date: 30-Sep-1987 #sequence-revision 31-Dec-1992 #text-change 16-Jun-2000

C:Accession: A24856; A23849; A60323

P:Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.T.; Steiner, D.F.

FEBS Lett. 203, 25-30, 1986

A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific

A:Reference number: A24856; MUID:86248118; PMID:3755107

A:Accession: A24856

A:Molecule type: mRNA

A:Residues: 1-180 <SEQ>

A:Cross-references: DBU:000014; GR:000014; NID:9220288; PTDN:BA000010.1; PTD:9220288

R:Hardy, C.G.; Eng, J.; Pan, Y.C.F.; Holmes, J.D.; Yalow, R.S.

Diabetes 35, 508-512, 1986

A:Title: Guinea pig glucagon differs from other mammalian glucagons.

A:Reference number: A23849; MUID:86165412; PMID:3455884

A:Accession: A23849

A:Molecule type: protein

A:Residues: 53-81 <DNA>

R:Conlon, J.M.; Hansen, H.F.; Schwartz, V.W.

Peptid. 11, 309-320, 1985

A:Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (glucagon

A:Reference number: A60323; MUID:86017849; PMID:4048553

A:Accession: A60323

A:Molecule type: protein

A:Residues: 53-81 <CON>

A:Note: glucagon-37 was not completely sequenced

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancreas

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PG>

F:21-50/Region: glicentin-related peptide #status predicted

F:53-89/Product: glucagon-37 (oxyntomodulin) #status experimental <G37>

F:53-81/Product: glucagon #status experimental <GCN>

F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91

Query Match 99.3%; Score 144; DB 1; Length 180;
Best Local Similarity 100.0%; Pred. No. 1,3e-13;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAWLK 28
|||||
DB 98 HAEGFTSDVSSYLEGQAAKEFIAWLK 125

RESULT 4

GCRNT

glucagon precursor - dogu

N:Contains: glucagon-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Octodon degus (degus)

C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999

C:Accession: C36118

P:Nishi, M.; Steiner, D.F.

Mol. Endocrinol. 4, 1192-1198, 1990

A:Title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and

A:Reference number: A36118; M01D:91155952; PMID:2234924

A:Accession: C36118

A:Molecule type: mRNA

A:Cross-references: GR: M57688; M1D:9202467; P1D: N040568 1; P1D:9202468

A:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:21-50/Region: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PRO>

F:21-50/Region: glucagon-related peptide #status predicted

F:53-81/Product: glucagon #status predicted <CON>

F:99-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAAGTSDVSSYLEGQAAKEFLAMLVK 28

DB 98 HAAGTSDVSSYLEGQAAKEFLAMLVK 125

RESULT 5

GCRNT

glucagon precursor - rat

N:Contains: glucagon-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Fallopia uveolus (Newway rat)

C:Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 26-Feb-1999

C:Accession: A22655; A25190; A44198

R:Heinrich, G.; Gros, P.; Habener, J.F.

J. Biol. Chem. 259, 14082-14087, 1984

A:Title: Glucagon gene sequence: four of six exons encode separate functional domains of

A:Reference number: A22655; M01D:85054853; PMID:6094539

A:Accession: A22655

A:Molecule type: DNA

A:Residues: 1-180 <HEP>

A:Cross-references: EMBL:K02809

A:Note: The authors translated the codon TTG for residue 10 as Glu and ACC for residue 9

R:Mojsos, S.; Heinrich, G.; Wilson, T.R.; Pava-Zola, M.; Orri, L.; Habener, J.F.

J. Biol. Chem. 261, 11880-11889, 1986

A:Title: Preproglucagon gene expression in pancreas and intestine diversifies at the lev

A:Reference number: A25190; M01D:86304354; PMID:3528148

A:Accession: A25190

A:Molecule type: mRNA

A:Status: not compared with conceptual translation

A:Residues: 1-180 <MOJ>

A:Cross-references: EMBL:K02809

A:Note: The authors translated the codon TTG for residue 10 as Glu and ACC for residue 9

R:Heinrich, G.; Gros, P.; Habener, J.F.

Endocrinology 115, 2176-2181, 1984

A:Title: Preproglucagon messenger ribonucleic acid, nucleotide and encoded amino acid s

A:Reference number: A44198; M01D:85051023; PMID:6548696

A:Accession: A44198

A:Molecule type: mRNA

A:Residues: 1-180 <HE2>

A:Cross-references: GR:K02809; GR:K02810; GR:K02811; GR:K02812

C:Genetics: 31/2; 85/2; 131/2; 179/2

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:21-180/Product: proglucagon #status predicted <PRO>

F:53-81/Region: signal sequence #status predicted <SIG>

F:53-81/Product: glucagon #status predicted <CON>

F:99-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAAGTSDVSSYLEGQAAKEFLAMLVK 28

DB 98 HAAGTSDVSSYLEGQAAKEFLAMLVK 125

RESULT 6

GCRNT

glucagon precursor - golden hamster

N:Contains: glucagon-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Mesocricetus auratus (golden hamster)

C:Date: 11-Jun-1988 #sequence_revision 11-Jun-1988 #text_change 20-Mar-1998

C:Accession: A01539

R:Heinrich, G.; Gros, P.; Mullerbach, G.T.

Nature 302, 716-718, 1983

A:Title: Hamster preproglucagon contains the sequence of glucagon and two related pe

A:Reference number: A01539; M01D:83167563; PMID:635407

A:Accession: A01539

A:Molecule type: mRNA

A:Residues: 1-180 <HEP>

A:Cross-references: EMBL:J00059

A:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pa

F:21-180/Product: proglucagon #status predicted <PRO>

F:21-50/Region: signal sequence #status predicted <SIG>

F:53-81/Product: glucagon #status predicted <CON>

F:99-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 99.3%; Score 144; DB 1; Length 180;

Best Local Similarity 100.0%; Pred. No. 13e-13;

Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAAGTSDVSSYLEGQAAKEFLAMLVK 28

DB 98 HAAGTSDVSSYLEGQAAKEFLAMLVK 125

RESULT 7

GCRNT

glucagon precursor - bovine

N:Contains: glucagon-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Bos primigenius taurus (cattle)

C:Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 20-Mar-1998

C:Accession: A93970; A92081; A01538

R:Lopez, C.C.; Frazer, M.L.; Su, G.J.; Kumar, A.; Saunders, G.F.

Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983

A:Title: Mammalian pancreatic preproglucagon contains three glucagon-related peptide

A:Reference number: A93970; M01D:83299956; PMID:6577439

A:Accession: A93970

A:Molecule type: mRNA

A:Residues: 1-180 <LOP>

A:Cross-references: EMBL:K00107

R:Bromer, W.W.; Houchens, M.E.; Kofenberger Jr., J.E.

J. Biol. Chem. 245, 2827-2837, 1971

A:Title: Amino acid sequence of bovine glucagon.

A:Reference number: A92081; M01D:7116445; PMID:5102927

A:Accession: A92081

A:Molecule type: protein

A:Residues: 53-81 <BR0>

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; fat acid
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: qlleucin-related peptide #status predicted
 F:53-81/Product: glucagon #status experimental <GCN>
 F:98-127/Product: glucagon-like peptide 1 #status experimental <GL1>
 F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 99.3% Score 144; DB 1; Length 180;
 Best Local Similarity 100.0% Pred. No. 13e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 28
 |||||
 Db 98 HAEGFTSDVSSYLEGQAAKEFIAVLV 125

RESULT 8

A57294
 glucagon precursor - mouse
 C:Species: Mus musculus (house mouse)
 C>Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
 C:Accession: A57294; S49903
 R:Rothenberg, M.R.; Eklertson, C.D.; Klein, K.; Zhou, Y.; Lindberg, L.; McDonald, J.K.;
 J. Biol. Chem. 270, 10136-10146, 1995
 A>Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
 A:Reference number: A57294; MUID:95247272; PMID:7730317
 A:Accession: A57294
 A:Status: Preliminary
 A:Molecule type: mRNA
 A:Residues: 1-180 <R0T>
 A:Cross-references: EMBL:Z46845; NID:9599880; PTDN:AAH6902.1; PID:9599881
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 99.3% Score 144; DB 2; Length 180;
 Best Local Similarity 100.0% Pred. No. 1.3e-13;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 28
 |||||
 Db 98 HAEGFTSDVSSYLEGQAAKEFIAVLV 125

RESULT 9

glucagon precursor - chicken
 C:Contans: glucagon; glucagon-like peptide 1
 C:Species: Gallus gallus (chicken)
 C>Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
 C:Accession: S09992; A92189; A60836; A01542
 R:Hisagawa, S.; Tazawa, K.; Naito, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
 FEBS Lett. 264, 117-120, 1990
 A>Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken H
 A:Reference number: S09992, MUID:90249492; PMID:2338135
 A:Accession: S09992
 A:Molecule type: mRNA
 A:Residues: 1-151 <IHS>
 A:Cross-references: EMBL:Y07539; NID:963749; PTDN:CAA68827.1; PID:963750
 R:Pollock, H.G.; Kimmet, J.R.
 J. Biol. Chem. 250, 9377-9380, 1975
 A>Title: Chicken glucagon. Isolation and amino acid sequence studies.
 A:Reference number: A92189; MUID:76069271; PMID:1194290
 A:Accession: A92189
 A:Molecule type: protein
 A:Residues: 55-83 <POL>
 R:Hung, J.; Pang, J.; Yalow, R.S.
 Horm. Metab. Res. 19, 542-544, 1987
 A>Title: Chicken glucagon: sequence and potency in receptor assay.
 A:Reference number: A60836; MUID:88113418; PMID:2828209
 A:Accession: A60836
 A:Molecule type: protein

A:Residues: 55-83 <HUA>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pan
 F:1-22/Domain: signal sequence #status predicted <SIG>
 F:23-151/Product: proglucagon #status predicted <PGC>
 F:55-83/Product: glucagon #status experimental <GCN>
 F:118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:147/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 91.0% Score 132; DB 1; Length 151;
 Best Local Similarity 88.9% Pred. No. 6.1e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 27
 |||||
 Db 118 HAEGFTSDVSSYLEGQAAKEFIAVLV 144

RESULT 10

151301
 proglucagon - chicken
 C:Species: Gallus gallus (chicken)
 C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
 C:Accession: 151301
 R:Irwin, D.M.; Wong, J.
 Mol. Endocrinol. 9, 267-277, 1995
 A>Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcripts
 A:Reference number: A58895; MUID:95295739; PMID:7764976
 A:Accession: 151301
 A:Status: Preliminary; translated from GH/EMBL/DDBU
 A:Molecule type: mRNA
 A:Residues: 1-206 <IHW>
 A:Cross-references: DB S78477, NID:999386; PTDN:AAH4506.1; PID:9999387
 C:Superfamily: glucagon
 C:Keywords: duplication

Query Match 91.0% Score 132; DB 2; Length 206;
 Best Local Similarity 88.9% Pred. No. 8.5e-12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 27
 |||||
 Db 118 HAEGFTSDVSSYLEGQAAKEFIAVLV 144

RESULT 11

B61125
 glucagon-like peptide - American eel
 C:Species: Anguilla rostrata (American eel)
 C>Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
 C:Accession: B61125
 R:Condon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
 Gen. Comp. Endocrinol. 82, 23-32, 1991
 A>Title: The primary structure of glucagon-like peptide but not insulin has been con
 A:Reference number: A61125; MUID:9140068; PMID:1874385
 A:Accession: B61125
 A:Molecule type: protein
 A:Residues: 1-30 <CON>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication
 F:1-30/Product: glucagon-like peptide #status experimental <GLP>
 F:30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match 81.4% Score 118; DB 2; Length 30;
 Best Local Similarity 80.8% Pred. No. 1.2e-10;
 Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 26
 |||||
 Db 1 HAEGFTSDVSSYLEGQAAKEFIAVLV 26

RESULT 12

061125
glucagon-like peptide European eel
C:Species: *Anguilla anguilla* (European eel)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Nov-1997
C:Accession: C61125
R:Condon, J. M.; Andrews, P. C.; Thim, L.; Madsen, T. W.
Gen. Comp. Endocrinol. 82, 23-32, 1991
A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved
A:Reference number: A61125, PMID: 9140068, PMID: 1874785
A:Accession: C61125
A:Molecule type: protein
A:Residues: 1-30 <CON>
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end, duplication
F:1-30/Product: glucagon-like peptide #status experimental <GLP>
F:30/Modified site: amidated carboxyl end (Arg) #status experimental

Query Match 81.4%; Score 118; DB 1; Length 30;
Best local Similarity 80.8%; Pred. No. 1, 2e-10;
Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLIAML 26
DB 1 HAEGFTSDVSSYLEGQAAKEFLIAML 26

RESULT 13
GRCGB
glucagon precursor - bullfrog (fragments)
N:Alternative names: oxyntomodulin; glucagon-like peptide 1; glucagon-like
N:Contans: glucagon, glucagon 36 (oxyntomodulin); glucagon-like peptide 1; glucagon-like
C:Species: *Rana catesbeiana* (bullfrog)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: B28091, E28091, E28091
P:Pollock, H. G.; Hamilton, T. W.; Rouse, J. B.; Ehner, K. F.; Kawlitch, A. B.
J. Biol. Chem. 268, 9746-9751, 1988
A:Title: Isolation of peptide hormones from the pancreas of the bullfrog (*Rana catesbeiana*)
A:Reference number: A92730, M010-88257-02, PMID: 3260276
A:Accession: B28091
A:Molecule type: protein
A:Residues: 1-36 <CON>
A:Accession: C28091
A:Molecule type: protein
A:Residues: 37-68 <CON>
A:Accession: D28091
A:Molecule type: protein
A:Residues: 69-101 <PO3>
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
F:1-29/Product: glucagon #status predicted <G36>
F:37-67/Product: glucagon-like peptide-1 #status experimental <GLP>
F:69-101/Product: glucagon-like peptide-2 #status experimental <GL2>

Query Match 81.4%; Score 118; DB 1; Length 101;
Best local Similarity 75.0%; Pred. No. 4, 5e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLIAML 28
DB 37 HAEGFTSDVSSYLEGQAAKEFLIAML 64

RESULT 14
GCTDC
glucagon precursor - channel catfish (fragments)
C:Species: *Ictalurus punctatus* (channel catfish)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C:Accession: A05166, A05167
R:Andrews, P. C.; Pommer, P.
J. Biol. Chem. 268, 3910-3914, 1985
A:Title: Isolation and structures of glucagon and glucagon-like peptide from catfish par-

A:Accession: A05166
A:Molecule type: protein
A:Residues: 1-29 <AMF2>
A:Accession: A05167
A:Molecule type: protein
A:Residues: 30-63 <AMF2>
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-29/Product: glucagon #status experimental <G29>
F:30-63/Product: glucagon-like peptide 1 #status experimental <GL1>

Query Match 77.2%; Score 112; DB 1; Length 63;
Best local Similarity 76.9%; Pred. No. 2, 1e-09;
Matches 20; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

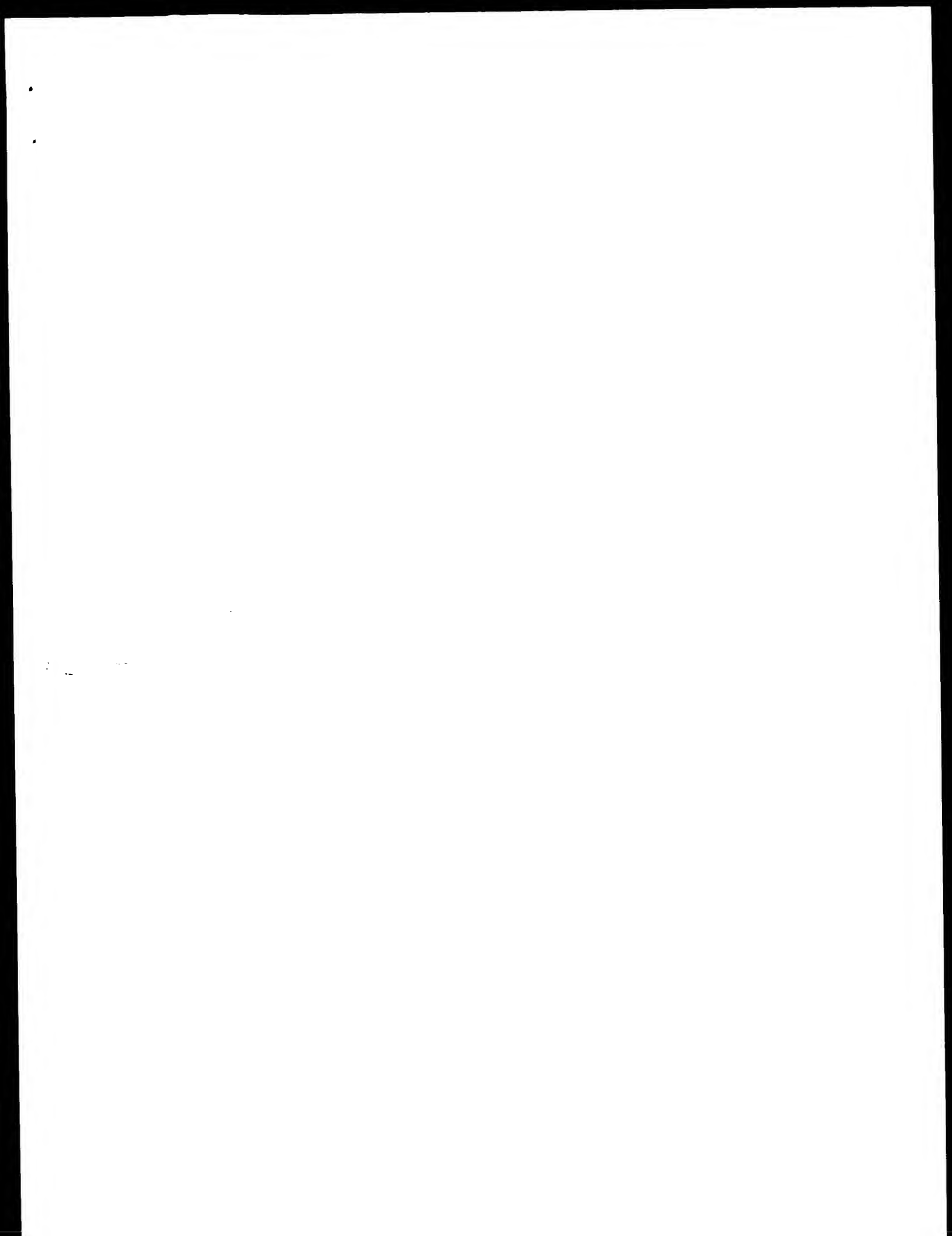
QY 1 HAEGFTSDVSSYLEGQAAKEFLIAML 26
DB 30 HAEGFTSDVSSYLEGQAAKEFLIAML 55

RESULT 15
GCAE2
glucagon 2 precursor - American goosetish
N:Contans: glucagon, glucagon like peptide 1
C:Species: *Lophius americanus* (American goosetish)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 21-Jul-2000
C:Accession: A05150
P:Rund, P. K.; Goodman, R. H.; Montminy, M. P.; Deo, P. C.; Bahner, T. F.
J. Biol. Chem. 268, 3280-3284, 1983
A:Title: Angiotensin II-stimulated glucagon-like peptide and corresponding amino acid
A:Reference number: A05150, M010-88145-04, PMID: 6348015
A:Accession: A05150
A:Molecule type: mRNA
A:Residues: 1-132 <LDN>
A:Cross-references: GB:00943; NID:954621; EINH:GAA43935.1; FID:954922
C:Superfamily: glucagon
C:Keywords: carbohydrate metabolism, duplication; hormone; pancreas
F:1-132/Product: signal sequence #status predicted <SIG>
F:12-122/Product: proglucagon 2 #status predicted <PG22>
F:53-80/Product: glucagon #status predicted <G53>
F:81-119/Product: glucagon-like peptide 1 #status predicted <GL1>

Query Match 77.2%; Score 112; DB 1; Length 122;
Best local Similarity 73.1%; Pred. No. 4, 2e-09;
Matches 19; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGQAAKEFLIAML 26
DB 89 HAEGFTSDVSSYLEGQAAKEFLIAML 114

Search completed: May 13, 2003, 09:48:33
Job time: 26.0508 secs



GenCore version 5.1.4_ip5_4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 08:50:12 ; Search time 14 7458 Seconds

(without alignments)
81.570 Million cell updates/sec

Title: US-09-868-974-2

Sequence: 1 HAEGTFTSLVSSYLEGQAAKEFIAWLKX 29

Scoring table: BI.OSUM62

Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters. 112892

Minimum DH seq length: 0

Maximum DB seq length: 20000000000

Post-processing:	Minimum Match	0%
Maximum Match	100%	

Listing first 45 summaries

Database : SwissProt_40:*

Pred No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	DB	ID	Description
1	144	99.3	158	1	GIUC_P113	P01274 sus scrofa
2	144	99.3	166	1	GIUC_BWVN	P01272 bos taurus
3	144	99.3	180	1	GIUC_CAVPO	P05110 capra pora
4	144	99.3	180	1	GIUC_HUMAN	P01276 homo sapie
5	144	99.3	180	1	GIUC_MESMU	P01273 mus muscul
6	144	99.3	180	1	GIUC_MOUSE	P05095 mus muscul
7	144	99.3	180	1	GIUC_COTICE	P22840 cotodon de
8	144	99.3	180	1	GIUC_PAT	P06883 ratius nor
9	132	91.0	151	1	GIUC_CHICK	P01277 gallus gal
10	118	81.4	30	1	GIUC_ANCAN	P01521 anquilla a
11	118	81.4	103	1	GIUC_RANCA	P04548 rana cates
12	112	77.2	122	1	GIUC_LOYAM	P04092 lephus am
13	111	76.6	71	1	GIUC_TICPU	P04093 icetaluscu
14	110	75.9	78	1	GIUC_LEPSU	P04566 lepisosteus
15	109	75.2	71	1	GIUC_P1AME	P01880 platiacus
16	105	72.4	121	1	GIUC_CAVAT	P79646 carassius
17	104	71.7	68	1	GIUC_GNANI	P01524 oncorhynch
18	102.5	70.7	33	1	GIUC_GPR11	P01023 oncorhynch
19	97	66.9	29	1	GIUC_TROMA	P09567 torpedo ma
20	97	66.9	96	1	GIUC_MYNSC	P09586 myxoscorpia
21	95	65.5	26	1	GIUC_SVYVA	P09587 scyliorhinu
22	93	64.1	29	1	GIUC_GALMT	P01349 gallus gale
23	93	64.1	124	1	GIUC_LOYAM	P01278 lephus am
24	90	62.1	29	1	GIUC_D1DMA	P018108 didelphis
25	90	62.1	29	1	GIUC_LAMBL	P03497 lampetra f
26	90	62.1	29	1	GIUC_P1AIT	P05448 oviparus
27	90	62.1	29	1	GIUC_CAVNA	P20794 canis fami
28	88	62.7	69	1	GIUC_ANACT	P01276 anas platy
29	88	60.7	36	1	GIUC_GFINI	P01026 gireochilmi
30	87	60.0	29	1	GIUC_CHIHR	P01297 chinichilla
31	86	59.3	29	1	GIUC_P1AVE	P03056 platichthy
32	83	57.2	75	1	GIUC_AMICA	P03056 amia calva
33	83	57.2	87	1	EXED_HELSU	P26344 ne-loloma

34	81	55.9	39	1	EXE3_HELLIO
35	79	54.5	36	1	GLUC_HDDT9
36	59	40.7	42	1	GIP_POVIN
37	59	40.7	42	1	GIP_PIG
38	59	40.7	72	1	VIE_FOVIN
39	59	40.7	72	1	VIP_PIG
40	59	40.7	72	1	VIP_PABIT
41	59	40.7	144	1	GIP_MOUSE
42	59	40.7	144	1	GIP_RAT
43	58	40.0	153	1	GIP_HUMAN
44	58	40.0	170	1	VIP_HUMAN
45	58	40.0	170	1	VIP_MOUSE
					P32648 mus musculus
					P26334 helodelma
					P05622 hydrodusa
					P09680 bos taurus
					p01281 sus scrofa
					p81401 bos taurus
					P32649 sus scrofa
					P48756 mus musculus
					O06145 rattus norvegicus
					p09461 homo sapiens
					p01282 homo sapiens
					P32648 mus musculus

ALLEGMENTS

RESULT 1			
ID	GLUC_PIG	STANDARD:	PRT: 158 AA.
AC	I-01274		
DT	21-JUL-1986 (Rel. 01, Created)		
DF	01-NOV-1990 (Rel. 16, Last sequence update)		
PT	16-OCT-2001 (Rel. 40, Last annotation update)		
DE	Glucagon precursor [Canine]-glutinin-related polypeptide		
NE	(GPP); glucagon; glucagon-like peptide 1 (GLP1); glucagon-like		
DE	peptide 2 (GLP2) (Fragment).		
CN	GCC.		
OS	Sus scrofa (Pig).		
OC	Eumetazoa; Metazoa; Chordata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.		
OX	NCBI_TaxID=9823;		
RN	11		
RP	SEQUENCE OF 1-69.		
RA	MEDLINE=81248172; PubMed=6894800;		
RL	Thim L., Moody A.J.;		
RT	"The primary structure of porcine gliventin (proglucagon).";		
PL	Regul Pept 2:134-150(1981).		
RN	121		
RP	SEQUENCE OF 1-69.		
RA	MEDLINE=8221776; PubMed=7045833;		
RL	Thim L., Moody A.J.;		
RT	"The amino acid sequence of porcine gliocentin.";		
PL	Peptides 2 Suppl 2:37-39(1981)		
RN	131		
RP	SEQUENCE OF 33-61.		
RA	Bromer W.W., Shin J.C., Behrens C.K.;		
RT	"The amino acid sequence of glucagon. V. Location of amide groups,		
PL	acid degradation studies and summary of sequential evidence.";		
RL	J Am Chem Soc. 79:2807-2810(1957).		
RN	141		
RP	SEQUENCE OF 76-107.		
RA	MEDLINE=89327238; PubMed=2753890;		
RL	Orekov G., Bersani M., Johnsen A.H., Hoelrup P., Holst J.J.;		
RT	"Complete sequences of glucagon-like peptide-1 from human and pig		
PL	small intestine.";		
RL	J Biol Chem. 264:12829-12839(1989)		
RN	151		
RP	SEQUENCE OF 111-158.		
RA	MEDLINE=88247312; PubMed=3379036;		
RL	Boul T., Thim L., Kotek H., Orekov G., Harting H., Holst J.J.;		
RT	"Nutritionally controlled regulation of proglucagon 111-160 in the porcine		
PL	and human small intestine.";		
RL	J Biol Chem. 263:8601-8624(1988).		
RN	161		
RP	X-RAY PHYSICAL CHARACTERISTICS (30 ANGSTROMS).		
RA	MEDLINE=7606129; PubMed=171582;		
RL	Sasaki K., Yoshifusa S., Adachi F.A., Takai I.T., Riandel T.L.;		
RT	"X-ray analysis of glucagon and its relationship to receptor		
PL	binding.";		
RL	Nature 257:751-757(1975).		
RT	1 POINTING GLUCAGON PROMOTES HYDROLYSIS OF SUBSTRATE AND LIPIDS, ANT		
RT	1 PAISES THE BLUEN STRAP LEVEL		

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CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
CC HUMAN SEQUENCE.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR PIR: A01540; GCPG.
DR PDB: 1GCG; 30-SEP-84.
DR InterPro: IPR000532; Glucagon.
DR Pfam: Pf00123; hormone2; 3.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON: 3.
DR Glucagon family; Hormone; Cleavage on pair of basic residues;
KW 3D-structure.
FT NON-TER 1 1
FT PEPTIDE 1 69 GLICENTIN.
FT PEPTIDE 1 30 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 3 61 GLUCAGON.
FT PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 126 158 GLUCAGON-LIKE PEPTIDE 2.
FT HELIX 39 42
FT TURN 43 45
FT TURN 46 55
FT HELIX 56 57
FT TURN 56 57
SU SEQUENCE 158 AA; 18212 MW; 2866TCE257F333B2 CRC64;

Query Match 99.3%; Score 144; DB 1; Length 158;
Host local Similarity 100.0%; Pred. No. 60-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGNAKEFTAMLVK 28
DB 78 HAEGFTSDVSSYLEGNAKEFTAMLVK 105

RESULT 2
GLUC_BOVIN
ID GLUC_BOVIN STANDARD; PRT; 180 AA.
AC P01272;
DT 21-JUL-1986 (Rel. 0), Created)
DT 13-AUG-1987 (Rel. 05, last sequence update)
DT 15-JUN-2002 (Rel. 41, last annotation update)
DE Glucagon precursor [Contains: Glucenin-related polypeptide (GRP)];
DE Glucagon; Glucagon-like peptide 1 (GLP1), Glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovinae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN 11
RP SOURCE: FROM N.A.
RA MDLINB-83299996; PubMed-6577439;
RA Lopez L.C., Frazier M.L., Su C.-J., Kumar A., Saunders G.F.;
RA "Mammalian pancreatic preproglucagon contains three glucagon-related
RA peptides."
RT Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
RN 12
RP SOURCE: OF 53-81.
RA MDLINB-7116445; PubMed-5102927;
RA Bromer W.W., Boucher M.E., Kottelberger J.E., Jr.;
RA "Amino acid sequence of bovine glucagon."
RL J. Biol. Chem. 246:2822-2827(1971).
RN 13
RP STRUCTURE BY NMR OF 53-81.
RA MDLINB-7116445; PubMed-6631957;
RA Braum W., Wilder G., Lee K.H., Wuthrich K.;
RA "Conformation of glucagon in a lipid-water interphase by 1H nuclear
RA magnetic resonance."
RL J. Mol. Biol. 169:921-948(1983).

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CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC or send an email to license@isb-sib.ch).
CC PDB: K00107; AAA30538.1; -.
DR PIR: A01538; GCHO.
DR PDB: 1KX6; 13-FEB-02.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON: 4.
DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
KW 3D-structure.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
SU SEQUENCE 180 AA; 20944 MW; 8D9B4FF05B9F5F6 CRC64;

Query Match 99.3%; Score 144; DB 1; Length 180;
Host local Similarity 100.0%; Pred. No. 6,9c-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTSDVSSYLEGNAKEFTAMLVK 28
DB 98 HAEGFTSDVSSYLEGNAKEFTAMLVK 125

RESULT 3
GLUC_CAVPO
ID GLUC_CAVPO STANDARD; PRT; 180 AA.
AC P05110;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, last sequence update)
DT 16-OCT-2001 (Rel. 40, last annotation update)
DE Glucagon precursor [Contains: Glucenin-related polypeptide (GRP)];
DE Glucagon; Glucagon-37 (Oxynomodulin); Glucagon-like peptide 1 (GLP1);
DE Glucagon-like peptide 2 (GLP2)].
GN GCG.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Granata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN 11
RP SOURCE: FROM N.A.
RA MDLINB-8624818; PubMed-3755107;
RA Setno S., Welsh M., Bell G.L., Chan S.J., Steiner D.F.;
RA "Mutations in the guinea pig preproglucagon gene are restricted to a
RA specific portion of the prohormone sequence."
RT FEBS Lett. 203:25-30(1986).
RN 12
RP SOURCE: OF 53-81.
RA MDLINB-86165412; PubMed-3956884;
RA Huang C.G., Eng J., Pan Y.-C.F., Holmes J.D., Yalow R.S.;
RA "Guinea pig glucagon differs from other mammalian glucagons."
RL Diabetes 35:508-512(1986).
RN 13
RP PARTIAL SOURCE: OF 53-89.

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RX MEDLINE=86017849; PubMed=4048553;
RA Conlon J.M., Hansen H.F., Schwartz J.W.;
RT "Primary structure of glucagon and a partial sequence of
RL oxytomodulin (glucagon-37) from the guinea pig.";
CC RA Regl. Pept. 11:304-320(1985).
CC -1- FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE GLUCOSE SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGEHRANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: D00014; BAA00010.1;
DR PIR: A24856; GCGP.
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 89 89 GLUCAGON-37.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
FT PEPTIDE 180 20972 MW: 7025181.61D5776 CRC64.
SO SEQUENCE 180 AA; 20972 MW; 7025181.61D5776 CRC64.

Query Match 99.3%; Score 144; DB 1; Length 180;
Best Local Similarity 100.0%; Pred. No. 6,9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0,

QY 1 HAAGTTSVSYSLGCAAKKPIAMLVK 28
Db 98 IAEGTISDVSSYLECAKEPIAMLVK 125
|||||
|||||

RESULT 4
GLUC_HUMAN STANDARD; PRT; 180 AA.
ID GLUC_HUMAN P01275,
AC P01275,
DT 21-JUL-1986 (Rel. 01, Created)
DI 13-AUG-1987 (Rel. 05, last sequence update)
DI 15-JUN-2002 (Rel. 41, last annotation update)
DE Glucagon precursor [contains: Glucenin related polypeptide (GRP)];
DE Glucagon; glucagon-like peptide 1 (GLP1); glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Homo sapiens (Human).
OC Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Mammalia,
OC Mammalia, Eutheria, Primates, Catarrhini, Homiidae, Homo.
OX NCBI_TaxID=9606;
RN [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=88330860; PubMed=2901414;
RA Drucker D.J., Asa S.;
RT "Glucagon gene expression in vertebrate brain.";
RL J. Biol. Chem. 265:13475-13478(1998)
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE=86259053; PubMed=3725587;
RA White J.W., Saunders G.F.,

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RT "Structure of the human glucagon gene.";
RL Nucleic Acids Res. 14:4719-4730(1986).
RN [3]
RN SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=83271477; PubMed=6877358;
RA Bell G.I., Sanchez-Pescador R., Jaybourn P.J., Najarian R.C.;
RT "Xenon duplication and divergence in the human preproglucagon gene.";
RL Nature 304:368-371(1983).
RN [4]
RN SEQUENCE FROM N.A.
RC TISSUE=pancreas;
RA Strauberg R.;
RL Submitted (MAR-2001) to the EMBL/GenBank/DBJ databases.
RN [5]
RN SEQUENCE OF 53-81.
RA Thompson T., Kristiansen K., Brunfeldt K., Sundby F.;
RT "The amino acid sequence of human glucagon.";
RL FEBS Lett. 21:315-319(1972).
RN [6]
RN SEQUENCE OF 98-127.
RX MEDLINE=89327238; PubMed=2753890;
RA Orskov C., Berstad M., Johansen A.H., Hoefrup F., Holst J.J.;
RT "Complete sequences of glucagon-like peptide 1 from human and pig
small intestine.";
RL J. Biol. Chem. 264:12846-12849(1989).
RN [7]
RN X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
RX MEDLINE=98334683; PubMed=9667960,
RA Sturm N.S., Lin Y., Hurley S.K., Kristiansky J., Ahn J.M.,
RA Azizov B.Y., Trivedi D., Hruby V.J.;
RT "Structure-function studies on positions 17, 18, and 21 replacement
analogues of glucagon: the importance of charged residues and salt
bridges in glucagon biological activity.";
RL J. Med. Chem. 41:2693-2700(1998).
CC -1- FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGEHRANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- PHARMACOTHERAPY: Available under the names Glucagon (Eli Lilly) and
CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
CC severe hypoglycemia in insulin-dependent diabetics.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC -1- DATABASE: NAME=Glucagon at Eli Lilly;
CC NOTE=Clinical information on Eli Lilly glucagon products:
CC WWW="http://www.lillydiabetes.com/products/patientinfo.cfm".
CC -----
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CC -----
DR EMBL: J04040; AAA52567.1;
DR PIR: X03991; CAA27627.1;
DR EMBL: V01515; CAA24759.1;
DR EMBL: H005278; AAA05278.1;
DR PIR: A24377; GCHU.
DR PIR: S23309; S23309.
DR PDB: 1BHO; 1B-NOV-98.
DR GeneW: HGNC:4191; GCG.
DR MIM: 138030;
DR MIM: 231530;
DR InterPro: IPR00532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 4.

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FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
SQ SEQUENCE: 180 AA; 20954 MW; 02791b4907aa0db4 cdc6d;

Query Match 99.3%; Score 144; DB 1; Length 180;
Best local similarity 100.0%; Pred No 6,9e-14;
Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HAEGFTISDVSSYHPCQAAKEPIALVYK 28
Db 98 HAEGFTISDVSSYLEGQAAKEPIALVYK 125
|||||
|||||

RESULT 6
GLUC_MOUSE
ID GLUC_MOUSE STANFORD PRT: 180 AA.
AC P55095;
DE 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, last sequence update)
DT 15-JUN-2002 (Rel. 41, last annotation update)
DE Glucagon precursor [Cultains: Glucocorticoid-related polypeptide (GRP)];
DE Glucagon; glucagon-like peptide 1 (GLP1); glucagon like peptide 2
DE (GLP2)].
GN GCG.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
|||
SEQUENCE FROM N.A.
RP TISSU=pancreatic islets;
RX MEMO:NM=95247722; PubMed-7730317;
RA Rothenberg M.F., Elbertson C.D., Klein K., Zhou Y., Linberg L.,
PA McDonald T.K., Mackin P.B., Nee B.D.;
RT "Processing of mouse proglucagon by recombinant prohormone convertase
PT 1 and immunopurified prohormone convertase 2 in vitro.";
PL J Biol Chem 270-10136-10146(1995).
(2)
RN SHAMSA DIN P. Knapel W.;
RA "Mouse glucagon full length cDNA.";
RT Submitted (JUN-2000) to the EMBL/GenBank/DBJ databases.
PL -1- PUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCERIN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- PUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
CC HELTH PROLIFERATION IN THE SMALL INTESTINE. CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDICATION: PROVIDED IN THE A CELLS OF THE ISLETS OF LANGEIRIANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC
CC EMBL; Z46845; CAA86902.1;
DR EMBL; AF276754; AAK86898.1;
DR HSSP; P01274; 10CN.
DR MGP; MGI:95674; GCG.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00128; Hormone-2; 3.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 3.
DR PROSITE; PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20 BY SIMILARITY.
FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.

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FT	PEPTIDE	53	81	GLUTAMON
FT	PEPTIDE	92	128	GLUTAMON-LIKE PEPTIDE 1.
FT	PEPTIDE	146	178	GLUCAGON-LIKE PEPTIDE 2.
SQ	SEQUENCE	180 AA:	200nt MW:	595AAGTGGAGGCGGCG CACGCA

DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 3.
 CC PROSITE: PS00260; GLUCAGON: 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 CC
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SO SEQUENCE 180 AA: 20846 MW, 7693140960367978 CMC64;

Query Match 99.38; Score 144; DB 1; Length 180;
 Best Local Similarity 100.0%; Pred. No. 6, 9e 14;
 Matches 28; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGGAKEFIAMLV 28
 DB 98 HAEGFTSDVSSYLEGGAKEFIAMLV 125

RESULT 9
 ID GLUC_CHICK STANDARD; PRT; 151 AA.

AC P01277;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-NOV-1995 (Rel. 15, Last sequence update)
 DT 15-JUL-1999 (Rel. 38, Last annotation update)
 DE Glucagon precursor.
 OS Gallus gallus (chicken), and
 OS Melagris gallinavo (Common turkey).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 CC Gallus.
 OX NCBI_Taxid=9031, 9103;
 RN 111
 RP SEQUENCE FROM N.A.
 RC SPECIES-CHICKEN; TISSUE-Pancreas;
 RX MEDLINE-90249492; PubMed-2318135;
 RA Hasegawa S., Terazono K., Neta K., Takada T., Yamamoto H.,
 RA Okamoto H.;
 RT *Nucleotide sequence determination of chicken glucagon precursor
 RT cDNA. Chicken preproglucagon does not contain glucagon-like peptide
 RT IL.*
 KL FEBS Lett. 264:117-120(1990).
 RN 121
 RP SEQUENCE OF 55-83.
 RC SPECIES-CHICKEN;
 RX MEDLINE-76069271; PubMed-1194290;
 RA Pollock H.G., Kimmel J.R.;
 RT *Chicken glucagon. Isolation and amino acid sequence studies.*;
 KL J. Biol. Chem 250:9377-9380(1975).
 RN 131

CC COMPOSITION, AND SEQUENCE OF 55-83.
 CC SPECIES-M. gallinavo;
 CC MEDLINE-7074118; PubMed-4645932;
 CC Markussen J., Frandsen E.K., Hedding L.G., Sundby F.;
 CC *Turkey glucagon: crystallization, amino acid composition and
 CC immunology.*;
 CC Horm. Metab. Res. 4:360-363(1972).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE
 CC IDENTICAL WITH CHICKEN.
 CC -1- GLUCAGON-LIKE PEPTIDE II.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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CC
 CC EMBL: Y07539; CAA68827.1;
 DR PIR: S09992; GCGH.
 DR PIR: A91740; A91740.
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2, 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 2.
 DR PROSITE: PS00260; GLUCAGON: 3.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC
 FT SIGNAL 1 22
 FT CHAIN 23 151 PROGLUCAGON.
 FT PEPTIDE 55 83 GLUCAGON.
 FT PROPEP 86 118
 FT PEPTIDE 118 147
 FT MOD_RES 147 147
 SO SEQUENCE 151 AA: 17520 MW, 3600875360485 CMC64;

Query Match 91.08; Score 132; DB 1; Length 151;
 Best Local Similarity 88.9%; Pred. No. 3, 3e 12;
 Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGGAKEFIAMLV 27
 DB 118 HAEGFTSDVSSYLEGGAKEFIAMLV 144

RESULT 10
 ID GLUC_ANGAN STANDARD; PRT; 30 AA.

AC P41521;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Glucagon-like peptide (GLP).
 OS Anguilla anguilla (European freshwater eel), and
 OS Anguilla rostrata (American eel).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;
 CC Anguilla.
 OX NCBI_Taxid=7936, 7938;
 RN 111
 RP SEQUENCE.
 RC TISSUE-Pancreas;
 RX MEDLINE-9134068; PubMed-1874385;
 RA Conlon J.M., Andrews P.C., Thim L., Moon T.W.;
 RT *The primary structure of glucagon-like peptide but not insulin has
 RT been conserved between the American eel, Anguilla rostrata and the
 RT European eel, Anguilla anguilla.*;
 CC Gen. Comp. Endocrinol. 82:43-52(1991).
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR: B61125; B61125.
 DR PIR: C61125; C61125.
 DR HSSP: P01275; 1BH0.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2, 1.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 1.
 DR PROSITE: PS00260; GLUCAGON: 1.
 KW Glucagon family; Amidation.
 FT MOD_RES 30 30
 SO SEQUENCE 30 AA: 3376 MW, 5920A5EABD6E49D0 CMC64;

Query Match 81.48; Score 118; DB 1; Length 30;
 Best Local Similarity 80.88; Pred. No. 6, 8e-11;
 Matches 21; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

UY 1 HAEGFTSDVSSYLEGGAKEFIAMLV 26

RA MEDLINE-85157536; PubMed-3838546;
 RA Andrews P.C., Romer P.;
 RT Isolation and structures of glucagon and glucagon-like peptide from
 RT callish pancreas.
 RT J. Biol. Chem. 260:3910-3914(1985).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLGY WITH
 CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: A05166; GRTD.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUGA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KM Glucagon family; Hormone.
 FT NON_TER 1 29
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT CONFLICT 53 53 E -> D (IN REF. 2).
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA: 8173 MW: 24688679AD981AB8 CXC64;
 Query Match 76.6%; Score 111; DB 1; Length 71;
 Best Local Similarity 76.9%; Pred. No. 1.7e-09;
 Matches 20; Conservative 4; Mismatches 2; Indels 0; Gaps 0;
 OY 1 HADGFTSDVSSYLQDAKKEFTWL 26
 DB 38 HADGFTSDVSSYLQDAKKEFTWL 63
 RESULT 14
 ID GLUC_LEPSP STANDARD; PRT: 78 AA.
 AC P09566;
 DT 01-MAR-1989 (Rel. 10, Created)
 DT 01-NOV-1990 (Rel. 16, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucagon; Glucagon-36 (oxyntomodulin);
 DE Glucagon-like peptide] (Fragment).
 OS Lepisosteus spatula (Alligator gar) (Actinopterygii: Euteleostomi:
 OS Euteleostomi: Chordata; Craniata; Vertebrata; Euteleostomi:
 OS Actinopterygii; Neopterygii; Semionotiformes; Lepisosteidae;
 CC Lepisosteus.
 CC NCHI_TaxID=79417;
 RN 111
 RP SEQUENCE OF 1-36 AND 45-78.
 RC TISSUE-Pancreas;
 RX MEDLINE-88196798; PubMed-3282974;
 RX Pollock H.G., Kimmel J.R., Ehner K.E., Hamilton J.W., Rouse J.B.,
 RX Lance V., Rawlitch A.B.;
 RA Isolation of alligator gar (Lepisosteus spatula) glucagon,
 RA oxyntomodulin, and glucagon-like peptide: amino acid sequences of
 RA oxyntomodulin and glucagon-like peptide.
 RT Gen. Comp. Endocrinol. 69:133-140(1988).
 RL 121
 KM PRELIMINARY SEQUENCE OF 1-29.
 KM TISSUE-Pancreas;
 RX MEDLINE-88030594; PubMed-3411873;
 RX Pollock H.G., Kimmel J.R., Hamilton J.W., Rouse J.B., Ehner K.E.,
 RX Lance V., Rawlitch A.B.;
 RA Isolation and structures of alligator gar (Lepisosteus spatula)
 RA insulin and pancreatic polypeptide.
 RL Gen. Comp. Endocrinol. 67:375-382(1987).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLGY WITH

CC AMERICAN GOOSEFISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: S06339; GCGXA.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUGA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KM Glucagon family; Hormone.
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 36 36 GLUCAGON-LIKE PEPTIDE.
 FT PEPTIDE 45 78
 FT NON_TER 71 71
 SQ SEQUENCE 78 AA: 8990 MW: 30106496271594F0 CXC64;
 Query Match 75.9%; Score 110; DB 1; Length 78;
 Best Local Similarity 73.1%; Pred. No. 2.6e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

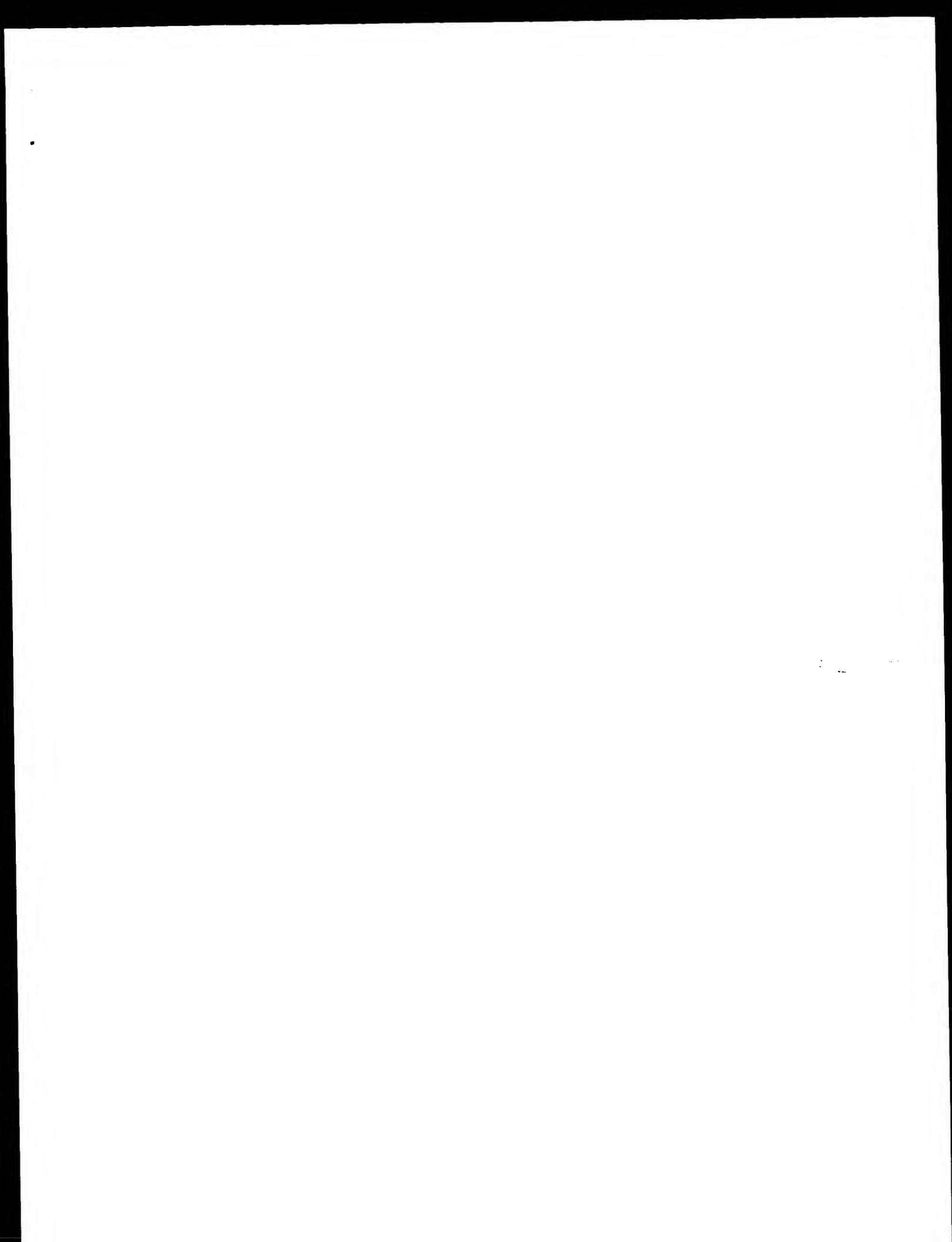
RESULT 15
 ID GLUC_PIAME STANDARD; PRT: 71 AA.
 AC P81880;
 DT 30-MAY-2000 (Rel. 39, Created)
 DT 30-MAY-2000 (Rel. 39, Last sequence update)
 DE Glucagon precursor (Fragment).
 OS Platydictyon mesopotamicus (Pacu).
 OS Euteleostomi: Chordata; Craniata; Vertebrata; Euteleostomi:
 OS Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Characiformes;
 CC Characidae; Platydictyon.
 CC NCHI_TaxID=42528;
 RN 111
 RP SEQUENCE:
 RC TISSUE-Pancreas;
 RX MEDLINE-99259587; PubMed-10327603;
 RX de Lima J.A., Oliveira B., Conlon J.M.;
 RT Purification and characterization of insulin and peptides derived
 RT from proglucagon and prosomatostatin from the fruit-eating fish, the
 RT pacu Platydictyon mesopotamicus.
 RL Comp. Biochem. Physiol. 122B:127-135(1999).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLGY WITH
 CC OTHER FISH SEQUENCES.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUGA; 2.
 DR PROSITE: PS00260; GLUGA; 2.
 KM Glucagon family; Hormone.
 FT NON_TER 1 29
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT NON_TER 71 71
 SQ SEQUENCE 71 AA: 8146 MW: F66AYGA2DD9806C5 CXC64;
 Query Match 75.2%; Score 109; DB 1; Length 71;
 Best Local Similarity 73.1%; Pred. No. 3.4e-09;
 Matches 19; Conservative 5; Mismatches 2; Indels 0; Gaps 0;
 OY 1 HADGFTSDVSSYLQDAKKEFTWL 26
 DB 38 HADGFTSDVSSYLQDAKKEFTWL 63

Tue May 13 09:54:45 2003

us-09-868-974-2.rsp

Page 9

Search completed: May 13, 2003, 09:25:10
Job time : 15.7458 secs



GenCore version 5.1.4.F5.4578
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OM protein - protein search, using SW model

Run on: May 13, 2003, 09:07:49 : Search time 52.1017 seconds

(without alignments)
114.687 Million cell updates/sec

Title: us-09-868-974-2

Perfect score: 145

Sequence: 1 HAEFTFTSVSSYLEGQAKEFIAMLVKX 29

Scoring table: HLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPREMBL_21:
1: sp_archaea:
2: sp_bacteria:
3: sp_fungi:
4: sp_human:
5: sp_invertebrate:
6: sp_mammal:
7: sp_mhc:
8: sp_organelle:
9: sp_phage:
10: sp_plant:
11: sp_robot:
12: sp_virus:
13: sp_vertebrate:
14: sp_unclassified:
15: sp_virus:
16: sp_bacteriophage:
17: sp_archaea:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	RP	ID	Description
1	144	99.3	180	6	Q951G0	Q951G0 canis fami
2	132	91.0	206	13	Q91410	Q91410 galinus gall
3	126	86.9	234	13	Q12956	Q12956 helodermat
4	118	81.4	230	13	Q9H19	Q9H19 haptobactar
5	114	78.6	256	13	Q42143	Q42143 xenopus lae
6	109	75.2	72	13	Q91409	Q91409 oncorhynch
7	109	75.2	178	13	Q91971	Q91971 oncorhynch
8	109	75.2	178	13	Q91189	Q91189 oncorhynch
9	109	75.2	219	13	Q42144	Q42144 xenopus lae
10	102	70.3	160	13	Q9P081	Q9P081 peromyscus
11	98	67.6	121	13	Q9D066	Q9D066 brachydanto
12	95	65.5	62	13	Q9P089	Q9P089 scyllorhinu
13	88	60.7	96	13	Q9G043	Q9G043 ambloplites
14	83	57.2	120	13	Q9P080	Q9P080 peromyscus
15	59	40.7	130	11	Q9CVF1	Q9CVF1 mus musculu
16	59	40.7	144	11	Q9D887	Q9D887 mus musculu

17	59	40.7	389	2	Q931H2	Q931H2 wolfinella s
18	58	40.0	171	11	Q9D227	Q9D227 mus musculu
19	54.5	37.6	446	16	P71006	P71006 bacillus su
20	53	36.6	172	13	Q9P023	Q9P023 brachydanto
21	52.5	36.2	427	17	Q8T1Y0	Q8T1Y0 methanosarc
22	52	35.9	148	13	Q948P4	Q948P4 oncorhynch
23	52	35.9	171	13	Q9P081	Q9P081 xenopus lae
24	52	35.9	173	13	Q98SP5	Q98SP5 oncorhynch
25	52	35.9	175	13	Q90X74	Q90X74 ictalurus p
26	51.5	35.5	285	17	Q8P0J9	Q8P0J9 methanosarc
27	51	35.2	352	5	Q9XX01	Q9XX01 caenorhabdi
28	51	35.2	810	4	Q9NTM8	Q9NTM8 homo sapien
29	51	35.2	867	51	Q9NFX9	Q9NFX9 homo sapien
30	50.5	34.8	372	10	Q9XFW9	Q9XFW9 ciocer arlet
31	50	34.5	89	13	Q98SP6	Q98SP6 anas platyr
32	50	34.5	244	16	Q8T1U5	Q8T1U5 salicicella
33	50	34.5	331	5	Q18101	Q18101 caenorhabdi
34	49	33.8	175	13	Q98T03	Q98T03 brachydanto
35	49	33.8	315	11	Q9D3P0	Q9D3P0 mus musculu
36	49	33.8	504	11	Q99M45	Q99M45 mus musculu
37	49	33.8	571	5	P97770	P97770 mus musculu
38	49	33.8	571	5	Q966P0	Q966P0 oncorhynch
39	49	33.8	576	5	Q9H104	Q9H104 caenorhabdi
40	49	33.8	594	5	Q9N5B9	Q9N5B9 caenorhabdi
41	49	33.8	613	5	Q8WSP1	Q8WSP1 caenorhabdi
42	49	33.8	634	3	Q9HEE5	Q9HEE5 neurospora
43	49	33.8	786	5	Q9N5B7	Q9N5B7 caenorhabdi
44	49	33.8	835	5	Q9N5B8	Q9N5B8 caenorhabdi
45	48	33.1	28	13	Q91H88	Q91H88 carassius a

ALIGNMENTS

RESULT 1

Q951G0 PRELIMINARY: PRT: 180 AA.
Q951G0
Q951G0: 01-DEC-2001 (11MHLREL: 19, Created)
Q951G0: 01-DEC-2001 (11MHLREL: 19, Last sequence update)
Q951G0: 01-MAR-2002 (11MHLREL: 20, Last annotation update)
DE Preprolactogen.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Cranialia; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN 111
RP SEQUENCE FROM N.A.
RA Irwin D.M.;
RT cDNA cloning of prolactogen from the stomach and pancreas of the
RT dog.
RL Submitted (SHR-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL: AF308439; AAC09425.1; -
DR InterPro: IPR005542; Glyceron
DR Pfam: PF00123; hormone2; 3;
DR ProSITE: PS00260; GPCRAGON; UNKNOWN_3
SQ SQUONCE 180 AA: KGFEE941AFQVZAHN CRCK4;

Query Match: 99.3%, Score 144, DB 6, Length 180,
Fast Local Similarity, 100.0%, Pred No. 6.5e-14,
Matches: 29, Conservative 0, Mismatches 0, Indels 0, Gaps 0;

RESULT 2

Q91410 PRELIMINARY: PRT: 206 AA.
Q91410
Q91410: 01-NOV-1996 (11MHLREL: 01, Created)
Q91410: 01-NOV-1996 (11MHLREL: 01, Last sequence update)

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DT 01 DEC-2001 (TREMblrel. 19, last annotation update)
DE proglucagon.
GN PROGLUCAGON.
OS Gallus gallus (Chicken).
OC Farkariota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauilia; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9011;
RN 111
RP SEQUENCE FROM N.A.
RX MEDLINE:95295739; PubMed-7776976;
RA Trout D.M., Wong J.;
RT "Trout and chicken proglucagon: alternative splicing generates mRNA
transcripts encoding glucagon-like peptide 2."
RL Mol. Endocrinol. 9:267-277(1995).
DR FMBL: S78477; AAR14506.1;
DR HSSP: P01274; ICGN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA: 3.
DR PROSITE: PS00260; GLUCAGON: 3.
SQ SEQUENCE: 206 AA; 23875 MW; A8299E1H02PCGAA4 CRC64.

Query Match 91.0%; Score 132; DB 13; Length 206;
Best Local Similarity 88.9%; Pred. No. 5, 1e-12;
Matches 24; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

OY 1 HAAGFTSDVSSYILGQAAKEFLAMV 27
DB 118 HAAGFTSDVSSYILGQAAKEFLAMV 144

RESULT 3
012956 PRELIMINARY: PRT: 204 AA.
ID 012956: 012955;
AC 012956: 012955;
DT 01-JUL-1997 (TREMblrel. 04, created)
DE 01-JUL-1997 (TREMblrel. 04, last sequence update)
DE 01-JUN-2001 (TREMblrel. 17, last annotation update)
DE Glucagon precursor.
OS Heloderma suspectum (Gila monster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Sclerozoosia; Anguilliformia; Helodermatidae;
OC Heloderma.
OX NCBI_TaxID=8554;
RN 111
RP SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
RX TISSUE-INTENSITY, AND PANCREAS;
RX MEDLINE-97172477; PubMed-9020121;
RA Chou Y.F., Drucker D.J.;
RT "Tissue-specific expression of unique mRNAs that encode proglucagon-
derived peptides or extendin 4 in the lizard."
RL J. Biol. Chem. 272:4108-4115(1997).
CC 1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
THE BLOOD SUGAR LEVEL (BY SIMILARITY).
CC 2- ALTERNATIVE PRODUCTS: 2 ISOPFORMS; LP11 (SHOWN HERE) AND LP1; ARE
PRODUCED BY ALTERNATIVE SPLICING.
CC 3- TISSUE SPECIFICITY: ISOPFORM LP11 IS EXPRESSED IN BOTH PANCREAS AND
INTESTINE. EXPRESSION OF ISOPFORM LP1 IS RESTRICTED TO THE
PANCREAS. NEITHER ISOPFORM IS DETECTED IN SALIVARY GLAND.
CC 4- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
RESPONSE TO A DROP IN BLOOD IN HIGHER SUGAR CONCENTRATION.
CC 5- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR FMBL: 077612; AAR51129.1;
DR EMBL: 077611; AAR51128.1;
DR HSSP: P01274; ICGN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA: 3.
DR PROSITE: PS00260; GLUCAGON: 2.
SQ Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

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KW Alternative splicing.
FT SIGNAL 1
FT PEPTIDE 20 BY SIMILARITY.
FT PEPTIDE 21 GRP (GLUCENTINE RELATED POLYPEPTIDE).
FT PEPTIDE 53 50 GLUCAGON.
FT PEPTIDE 53 81 GLUCAGON.
FT PEPTIDE 116 145 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 164 196 GLUCAGON-LIKE PEPTIDE 2.
FT VARSPLIC 149 149 D -> E (IN ISOPFORM LP1).
FT VARSPLIC 150 204 MISSING (IN ISOPFORM LP1).
SQ SEQUENCE: 204 AA; 23553 MW; B132E3FE46873E72 CRC64;

Query Match 86.9%; Score 126; DB 13; Length 204;
Best Local Similarity 85.2%; Pred. No. 4, 2e-11;
Matches 23; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAAGFTSDVSSYILGQAAKEFLAMV 27
DB 116 HAAGFTSDVSSYILGQAAKEFLAMV 142

RESULT 4
080W1.9 PRELIMINARY: PRT: 220 AA.
ID 080W1.9:
AC 080W1.9:
DT 01-MAR-2002 (TREMblrel. 20, created)
DT 01-MAR-2002 (TREMblrel. 20, last sequence update)
DE 01-JUN-2002 (TREMblrel. 21, last annotation update)
DE proglucagon.
OS Hoplobatrachus rugulosus.
OC Farkariota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae;
OC Hoplobatrachus.
OX NCBI_TaxID=110072;
RN 111
RP SEQUENCE FROM N.A.
RA Yeung C.-M., Chow H.K.C.;
RT "Identification of a proglucagon cDNA from Rana ligrina rugulosa that
encodes two GLP-1s."
RT Gen. Comp. Endocrinol. 124:0-0(2001).
DR FMBL: AF324209; AAL35758.1;
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 4.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA: 4.
DR PROSITE: PS00260; GLUCAGON: UNKN-WN_4.
SQ SEQUENCE: 220 AA; 25615 MW; C72D926E7F89E381 CRC64;

Query Match 81.4%; Score 118; DB 13; Length 220;
Best Local Similarity 75.0%; Pred. No. 7, 5e-10;
Matches 21; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAAGFTSDVSSYILGQAAKEFLAMV 28
DB 135 HAAGFTSDVSSYILGQAAKEFLAMV 162

RESULT 5
042143 PRELIMINARY: PRT: 266 AA.
ID 042143:
AC 042143:
DT 01-JAN-1998 (TREMblrel. 05, created)
DT 01-JAN-1998 (TREMblrel. 05, last sequence update)
DE 01-JUN-2001 (TREMblrel. 17, last annotation update)
DE Glucagon I precursor [Contains: Glucagon, glucagon-like peptide 1A
(GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
(GLP-1C); glucagon-like peptide 2 (GLP-2)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
OC Xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN 111
RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RX TISSUE-PANCREAS;

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RX MEDLINE-97368292; PubMed 9223287;
 RA Irwin D.M., Satkunarajah M., Wen Y., Rubnaker P.L., Pederson P.A.,
 Wheeler M.B.;
 RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
 insulinotropic properties.";
 RL Proc Natl Acad Sci U S A. 94:7915-7920(1997).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: 1 (SHOWN HERE) AND 2: ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: AF04432; NAR65660.1; -
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon
 DR Pfam: PF00123; hormone2.5;
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.5;
 DR PROSITE: PS00260; GLUCAGON.5;
 DR Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
 KM Multigene family; Alternative splicing.
 KW SIGNAL. 1 2
 FT PEPTIDE 53 81 GLUCAGON-LIKE PEPTIDE 1A.
 FT PEPTIDE 97 133 GLUCAGON-LIKE PEPTIDE 1B.
 FT PEPTIDE 142 173 GLUCAGON-LIKE PEPTIDE 1C.
 FT PEPTIDE 180 211 GLUCAGON-LIKE PEPTIDE 1D.
 FT PEPTIDE 227 259 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIT 214 261 MISSING (IN ISOFORM 2).
 SO SEQUENCE 266 AA; 30951 MW, 544178MC20AF82C CRR64.

Query Match 78.6%; Score 114; DB 13; Length 266,
 Best Local Similarity 67.9%; Pred. No. 3 84.0%;
 Matches 19; Conservative 7; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAML 28
 DB 180 HAEFTSDVSSYLEGGAKEFIAML 207

RESULT 6
 ID O91409; PRELIMINARY; PRT; 72 AA.
 AC O91409; 091232;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DE 01-DEC-2001 (TRENBLER 19, Last annotation update)
 DE PROGLUCAGON (Fragment).
 OS Onchorynchus tshawytscha (Chinook salmon) (King salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Onchorynchus.
 OX NCBI_TaxID=74940;
 RN 11;
 RP SEQUENCE FROM N.A.
 RX MEDLINE-95295739; PubMed-7776376.
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 RT transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 DR EMBL: S78474; AAD14283.1; -
 DR EMBL: U19920; AAC59670.1; -
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2.2;
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.2;
 DR PROSITE: PS00260; GLUCAGON.
 DR UNKOWN_1
 FT NON-TER 1 1
 SO SEQUENCE 72 AA; 8293 MW, 858435MC1260A3 CRR64.

Query Match 75.2%; Score 109; DB 13; Length 72;
 Best Local Similarity 69.2%; Pred. No. 4 96.0%;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAML 26
 DB 39 HAEFTSDVSSYLEGGAKEFIAML 64

RESULT 7
 ID O91971; PRELIMINARY; PRT; 178 AA.
 AC O91971; 09186; 092169;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DT 01-JUN-2001 (TRENBLER 17, Last annotation update)
 DE Glucagon I precursor.
 OS Onchorynchus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostomi;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Onchorynchus.
 OX NCBI_TaxID=8022;
 RN 11;
 RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
 RC TISSUE-DISTAL SMALL INTESTINE AND PANCREAS;
 RX MEDLINE-95295739; PubMed-7776976;
 RA Irwin D.M., Wong J.;
 RT "Trout and chicken proglucagon: alternative splicing generates mRNA
 RT transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: INTESTINAL (SHOWN HERE) AND
 CC PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: U19913; AAC59667.1; -
 DR EMBL: U19917; AAC59668.1; -
 DR EMBL: U19918; AAC60212.1; -
 DR EMBL: U19919; AAC60213.1; -
 DR EMBL: U19918; AAC60213.1; JOINED.
 DR EMBL: S78475; AAB34505.1; -
 DR EMBL: S78473; AAB34504.2; -
 DR HSSP: P01274; IGCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2.3;
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA.3;
 DR PROSITE: PS00260; GLUCAGON.3;
 KM Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW Multigene family; Multigene family.
 FT SIGNAL 1 2
 FT PEPTIDE 52 80 GLUCAGON.
 FT PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
 FT VARSPLIT 124 178 MISSING (IN PANCREATIC ISOFORM).
 SO SEQUENCE 178 AA; 20034 MW, 576984MC24958F CRR64.

Query Match 75.2%; Score 109; DB 13; Length 178;
 Best Local Similarity 69.2%; Pred. No. 1 46.0%;
 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;

OY 1 HAEFTSDVSSYLEGGAKEFIAML 26
 DB 90 HAEFTSDVSSYLEGGAKEFIAML 115

RESULT 8
 ID O91189; PRELIMINARY; PRT; 178 AA.
 AC O91189; 092168;
 DT 01-NOV-1996 (TRENBLER 01, Created)
 DT 01-NOV-1996 (TRENBLER 01, Last sequence update)
 DT 01-JUN-2001 (TRENBLER 17, Last annotation update)
 DE Glucagon II precursor.

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05 Oncorhynchus mykiss (Rainbow Trout) (Salmo gairdneri);
06 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
07 Actinopterygii; Neopterygii; Teleostei; Euteleostei;
08 Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
09 NCBI_TaxID=8022;
10 [1]
11 SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
12 TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS;
13 MEDLINE=95295739; PubMed=776976;
14 Irwin D.M., Wong J.;
15 "front and chicken proglucagon: alternative splicing generates mRNA
16 transcripts encoding glucagon-like peptide 2."
17 Mol. Endocrinol. 9:267-277(1995).
18 -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
19 THE BLOOD SUGAR LEVEL. (BY SIMILARITY).
20 -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS, INTERSTITIAL (SHOWN HERE) AND
21 PANCREATIC; ARE PRODUCED BY ALTERNATIVE SPLICING.
22 -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
23 RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
24 -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
25 EMBL: U19914; AAC59668.1;
26 EMBL: U19916; AAC60210.1;
27 EMBL: U19915; AAC60210.1; JOINED.
28 EMBL: U19915; AAC60209.1;
29 HSSP: P01274; ICGN.
30 InterPro: IPR000532; Glucagon.
31 Pfam: PF00124; hormone2; 1.
32 PRINTS: PR00275; GLUCAGN.
33 SMART: SM00260; GLUCAGN.
34 PROSITE: PS00260; GLUCAGN: UNKNOWN_2.
35 Glucagon family; Hormone; cleavage on pair of basic residues; Signal;
36 Alternative splicing; Multigene family.
37 FT SIGNAL 1
38 FT PEPTIDE 7 49 GROUP (GLUCENTINE-RELATED POLYPEPTIDE);
39 FT PEPTIDE 52 80 GLUCAGON.
40 FT PEPTIDE 85 120 GLUCAGON LIKE PEPTIDE 1.
41 FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
42 FT VARSPLIC 124 178 MISSING (IN PANCREATIC ISOFORM).
43 SU SHOUNCE 178 AA; 19998 MW; F8907386C991766 CRC64;
44
45 Query Match 75.2%; Score 109; DB 13; Length 178;
46 Best Local Similarity 69.2%; Pred. No. 1.4e-08;
47 Matches 18; Conservative 7; Mismatches 1; Indels 0; Gaps 0;
48
49 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 26
50 111111111111111111111111
51 DB 90 HAQGTIVSVSYLDQAAKDFVSM 115
52
53 RESULT 9
54 042144 PRELIMINARY: PRT; 219 AA.
55 AC 042144;
56 DT 01-JAN-1998 (TEMBUREL 05, Created)
57 DT 01-JAN-1998 (TEMBUREL 05, Last sequence update)
58 DT 01-JUN-2001 (TEMBUREL 17, Last annotation update)
59 Glucagon II precursor [contains: glucagon; glucagon-like peptide 1A
60 (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
61 (GLP-1C)].
62 Xenopus laevis (African clawed frog).
63 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
64 Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;
65 Xenopodidae; Xenopus.
66 NCBI_TaxID=8155;
67
68 RN 111
69 RP SEQUENCE FROM N.A.
70 RC TISSUE-PANCREAS;
71 MEDLINE=97168292; PubMed=9223287;
72 Irwin D.M., Satkumaraiah M., Wen Y., Hrubaker P.L., Pederson R.A.,
73 Wheeler M.H.;
74 "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
75 insulinotropic properties."
76 Proc. Natl. Acad. Sci. U.S.A. 94:7915-7920(1997).

```

```

05 -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
06 THE BLOOD SUGAR LEVEL.
07 -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
08 EMBL: AF004433; AAB56661.1;
09 HSSP: P01274; ICGN.
10 InterPro: IPR000532; Glucagon.
11 Pfam: PF00123; hormone2; 4.
12 PRINTS: PR00275; GLUCAGN.
13 SMART: SM00260; GLUCAGN.
14 PROSITE: PS00260; GLUCAGN; 3.
15 Glucagon family; Hormone; Signal; cleavage on pair of basic residues;
16 Multigene family.
17 FT SIGNAL 1 20 POTENTIAL.
18 FT PEPTIDE 53 81 GLUCAGON.
19 FT PEPTIDE 97 133 GLUCAGON-LIKE PEPTIDE 1A.
20 FT PEPTIDE 142 173 GLUCAGON LIKE PEPTIDE 1B.
21 FT PEPTIDE 180 211 GLUCAGON-LIKE PEPTIDE 1C.
22 SU SEQUENCE 219 AA; 25471 MW; AC009233C36C60 CRC64;
23
24 Query Match 75.2%; Score 109; DB 13; Length 219;
25 Best Local Similarity 66.7%; Pred. No. 1.8e-08;
26 Matches 18; Conservative 7; Mismatches 2; Indels 0; Gaps 0;
27
28 1 HAEGFTSDVSSYLEGQAAKEFIAMLV 27
29 111111111111111111111111
30 DB 180 HAEGFTNDMTNLYEKAKEFEVGLI 206
31
32 RESULT 10
33 09PURI PRELIMINARY: PRT; 160 AA.
34 AC 09PURI; 09PR28; 09PR27;
35 DT 01-MAY-2000 (TEMBUREL 13, Created)
36 DT 01-MAY-2000 (TEMBUREL 13, Last sequence update)
37 DT 01-DEC-2001 (TEMBUREL 19, Last annotation update)
38 Glucagon I precursor [contains: glucagon; glucagon-like peptide 1
39 (GLP-1); glucagon-like peptide 2 (GLP-2)].
40 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
41 Petromyzontiformes, Petromyzontidae, Petromyzon.
42 OC Petromyzontiformes, Petromyzontidae, Petromyzon.
43 NCBI_TaxID=7757;
44 [1]
45 SEQUENCE FROM N.A.
46 RC TISSUE-INTESTINE;
47 MEDLINE=20022986; PubMed=10555286;
48 Irwin D.M., Hunter O., Youson J.H.;
49 "Lamprey proglucagon and the origin of glucagon-like peptides."
50 Mol. Biol. Evol. 16:1548-1557(1999).
51 [2]
52 SEQUENCE OF 43-71 AND 82-113.
53 RC TISSUE-INTESTINE;
54 MEDLINE=94010172; PubMed=8405897;
55 Cution J.M., Nielsen P.F., Youson J.H.;
56 "Primary structures of glucagon and glucagon-like peptide isolated
57 from the intestine of the parasitic phase lamprey Petromyzon
58 marinus."
59 Gen. Comp. Endocrinol. 91:96-104(1994).
60 -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOCEN AND LIPIDS, AND RAISES
61 THE BLOOD SUGAR LEVEL.
62 -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
63 EMBL: AF159707; AF09186.1;
64 HSSP: P01275; IHHO.
65 InterPro: IPR000532; Glucagon.
66 Pfam: PF00123; hormone2; 2.
67 PRINTS: PR00275; GLUCAGN.
68 SMART: SM00260; GLUCAGN.
69 PROSITE: PS00260; GLUCAGN; 2.
70 Glucagon family; Hormone; Signal; cleavage on pair of basic residues;
71 Multigene family.
72 FT SIGNAL 1 22 POTENTIAL.
73 FT PEPTIDE 43 71 GLUCAGON.
74 FT PEPTIDE 82 113 GLUCAGON-LIKE PEPTIDE 1.
75 FT PEPTIDE 130 160 GLUCAGON-LIKE PEPTIDE 2.

```

SEQUENCE 160 AA: 18042 MW: 94525300.5A74072 QPC64;

Query Match Best Local Similarity 70.3%; Score 102; DB 13, Length 160.

Matches 15; Conservative 11; Mismatches 2; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPGQAARFIAWLVK 28

DB 82 HADGFTNDMTSYLDKAAKAEFVSNLAR 109

RESULT 11

OYDDE6 PRELIMINARY; PRT; 121 AA.

DT 01-MAR-2001 (TREMBLER) 16, Created

DT 01-MAR-2001 (TREMBLER) 16, Last sequence update

DT 01-DEC-2001 (TREMBLER) 19, Last annotation update

DE Glucagon polypeptide.

OC Brachydanio rerio (Zebrafish) (Zebra danio).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Danio.

OX NCBI_TaxID=7955.

RN 11

RP SEQUENCE FROM N.A.

RX MEDLINE-99425190; PubMed-10495291;

RA Argenton F., Zecchin E., Hortolussi M.;

RT "Early appearance of pancreatic hormone-expressing cells in the

RL zebrafish embryo."

RT Mech. Dev. 87:217-221 (1999).

DR EMBL: AJ134697; CAC20106.1; -

DR HSSP: P01274. 1GCM.

DR ZFIN: ZDB-GENE-010219-1; qcq.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2.2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; 1

DR Polypeptide

FT CHAIN 49 79 GLUCAGON.

FT CHAIN 88 121 GLUCAGON-LIKE PEPTIDE 1.

SO SEQUENCE 121 AA: 13517 MW: A853857690DA180P CAC64;

Query Match 67.6%, Score 98, DB 13, Length 121;

Best Local Similarity 73.1%, Pred. No. 4, 2e-07,

Matches 19; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPGQAARFIAWLVK 28

DB 82 HADGFTNDMTSYLDKAAKAEFVSNLAR 113

RESULT 12

OYDDE6 PRELIMINARY; PRT; 62 AA.

DT 01-MAR-2001 (TREMBLER) 13, Created

DT 01-MAR-2001 (TREMBLER) 16, Last sequence update

DT 01-JUN-2002 (TREMBLER) 21, Last annotation update

DE Glucagon precursor (Contains: glucagon 25, glucagon-like

peptide) (Fragments).

OS Scyliorhinus canicula (Spotted dogfish) (Spotted catshark).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;

OC Plasmobranchii; Galeomorphi; Galeoidea; Carchariniiformes;

OC Scyliorhinidae; Scyliorhinus.

OX NCBI_TaxID=7830;

RN 11

RP SEQUENCE.

RC TISSUE=PANCREAS;

RX MEDLINE=94286411; PubMed=8015974;

RA Conlon J.M., Hazen N., Thim L.;

RT "Primary structures of peptides derived from glucagon isolated from

the pancreas of the elasmobranch fish, Scyliorhinus canicula."

RT Peptides 15:163-167(1994).

DR EMBL: AF196459; AAC16778.1; -

DR HSSP: P01274; 1GCM.

DR InterPro: IPR000532; Glucagon.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2.

DR PROSITE: PS00260; GLUCAGON; 2.

DR Glucagon family; Hormone.

FT CHAIN 1 29 GLUCAGON-29.

FT PEPTIDE 1 33 GLUCAGON-33.

FT NON-CONS 33 34 GLUCAGON-33.

FT PEPTIDE 34 62 GLUCAGON-LIKE PEPTIDE.

SO SEQUENCE 62 AA: 7270 MW: C5FF4871D069C01 CAC64;

Query Match 65.8%, Score 95; DB 13, Length 62;

Best Local Similarity 55.6%; Pred. No. 5, 6e-07;

Matches 15; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPGQAARFIAWLVK 27

DB 1 HSDGFTSDVSSYLPGQAARFIAWLVK 27

RESULT 13

OYDDE6 PRELIMINARY; PRT; 96 AA.

DT 01-MAR-2001 (TREMBLER) 16, Created

DT 01-MAR-2001 (TREMBLER) 16, Last sequence update

DT 01-DEC-2001 (TREMBLER) 19, Last annotation update

DE Proglucagon (Fragment).

OS Ambloplites roosteris.

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Acarichthys; Acarichthys; Perciformes; Percoidae;

OC Centrarchidae; Ambloplites.

OX NCBI_TaxID=109273;

RN 11

RP SEQUENCE FROM N.A.

RX At-Mahrouk A.A., Twiss D.M., Youson J.H.;

RT "Rock Bass Proglucagon."

RT Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.

DR EMBL: AF196459; AAC16778.1; -

DR HSSP: P01274; 1GCM.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2.2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1

FT NON-TER 1 1

FT CHAIN 1 29 GLUCAGON.

FT CHAIN 39 70 GLUCAGON-LIKE PEPTIDE 1.

FT CHAIN 86 96 GLUCAGON-LIKE PEPTIDE 2.

FT NON-TER 96 96

SO SEQUENCE 96 AA: 11225 MW: 6435035EDDA0000 CAC64;

Query Match 60.7%, Score 88, DB 13, Length 96;

Best Local Similarity 51.9%; Pred. No. 1, 1e-05;

Matches 14; Conservative 9; Mismatches 4; Indels 0; Gaps 0;

OY 1 HAEGFTSDVSSYLPGQAARFIAWLVK 27

DB 1 HSDGFTSDVSSYLPGQAARFIAWLVK 27

RESULT 14

OYDDE6 PRELIMINARY; PRT; 120 AA.

DT 01-MAR-2001 (TREMBLER) 16, Created

DT 01-MAR-2001 (TREMBLER) 16, Last sequence update

DT 01-DEC-2001 (TREMBLER) 19, Last annotation update

DE Glucagon polypeptide.

OC Brachydanio rerio (Zebrafish) (Zebra danio).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

OC Cyprinidae; Danio.

OX NCBI_TaxID=7955.

RN 11

RP SEQUENCE FROM N.A.

RX MEDLINE-99425190; PubMed-10495291;

RA Argenton F., Zecchin E., Hortolussi M.;

RT "Early appearance of pancreatic hormone-expressing cells in the

RL zebrafish embryo."

RT Mech. Dev. 87:217-221 (1999).

DR EMBL: AJ134697; CAC20106.1; -

DR HSSP: P01274. 1GCM.

DR ZFIN: ZDB-GENE-010219-1; qcq.

DR InterPro: IPR000532; Glucagon.

DR Pfam: PF00123; hormone2.2.

DR PRINTS: PR00275; GLUCAGON.

DR SMART: SM00070; GLUCAG 2

DR PROSITE: PS00260; GLUCAGON; 1

DR Polypeptide

FT CHAIN 49 79 GLUCAGON.

FT CHAIN 88 121 GLUCAGON-LIKE PEPTIDE 1.

SO SEQUENCE 121 AA: 13517 MW: A853857690DA180P CAC64;

GenTope version 5.1.4_p5_4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 08 49 45, Start: 1 mi. 54.9] (4 Sec. 0.15
(with about 11000000)

72.794 million cell updates/sec

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Sequence: 1 AEGTFTSDVSSYLEGQAAKEFIAMAEKGR 30

Scoring table: HLOSUM62

1000

Maximum DB seq Length: 2000000000

Post-processing: Minimum Match 98

Listing first 45 summaries

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2.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1941.DAT.*
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4.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1983.DAT.*
5.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1984.DAT.*
6.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1985.DAT.*
7.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1986.DAT.*
8.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1987.DAT.*
9.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1988.DAT.*
10.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1989.DAT.*
11.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1990.DAT.*
12.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1991.DAT.*
13.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1992.DAT.*
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15.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA1994.DAT.*
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23.	/S1RS2/qcqdtaa/genesseq/geneseqp_emb1/AA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result, being printed and is derived by analysis of the total score distribution.

SUMMARY

Result No.	Score	Query Match	Length	DB	ID	Description
1	135	93.1	31	17	AAW03901	Glucagon like pep
2	135	93.1	31	17	AAW03902	Glucagon like pep
3	134	92.4	29	14	AAW50005	Glucagon-like pep
4	134	92.4	29	21	AAV81348	Glucagon-like pep
5	134	92.4	30	15	AAK45835	Insulinotropin det
6	134	92.4	30	15	AAK63247	Insulinotropin (G
7	134	92.4	30	16	AAK69063	Insulinotropin (G
8	134	92.4	30	16	AAK79802	Insulinotropin (G
9	134	92.4	30	16	AAK80548	Glucagon like pep
10	134	92.4	30	17	AAK94856	human glucagon li
						target peptide (Ch

11	1.34	92.4	30	17	AAAP89475
12	1.34	92.4	30	17	AAAP05385
13	1.34	92.4	30	17	AAAP3060
14	1.34	92.4	30	18	AAAI6183
15	1.34	92.4	30	19	AAAG3288
16	1.34	92.4	30	19	AAAG3184
17	1.34	92.4	30	19	AAAG5006
18	1.34	92.4	30	20	AAAY42935
19	1.34	92.4	30	20	AAAY42937
20	1.34	92.4	30	20	AAAY39773
21	1.34	92.4	30	20	AAAY39773
22	1.34	92.4	30	20	AAAY34198
23	1.34	92.4	30	20	AAAY31503
24	1.34	92.4	30	20	AAAY22164
25	1.34	92.4	30	20	AAAY22164
26	1.34	92.4	30	20	AAAY18033
27	1.34	92.4	30	20	AAAY09719
28	1.34	92.4	30	21	AAAB12843
29	1.34	92.4	30	21	AAAB21340
30	1.34	92.4	30	21	AAAB21340
31	1.34	92.4	30	21	AAAB21294
32	1.34	92.4	30	21	AAAB07313
33	1.34	92.4	30	21	AAAB07314
34	1.34	92.4	30	21	AAAB11891
35	1.34	92.4	30	21	AAAY5280
36	1.34	92.4	30	21	AAAY53281
37	1.34	92.4	30	21	AAAB6345
38	1.34	92.4	30	21	AAAY78949
39	1.34	92.4	30	22	AAAD07375
40	1.34	92.4	30	22	AAAE07257
41	1.34	92.4	30	22	AAAE07258
42	1.34	92.4	30	22	AAAB5302
43	1.34	92.4	30	22	AAAB4335
44	1.34	92.4	30	22	AAAB43291
45	1.34	92.4	30	22	AAAG70461

ALIGNMENTS

RESULT 1
AAW03901
ID AAW03901 standard; peptide: 31 AA.
XX AAW03901;
AC
XX 15-APR-1997 (first entry)
DT
XX
DE Glucagon like peptide 1 (7-37) analogue Ser26.
XX
XX Human; glucagon like peptide, GIP-1, analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type 1 diabetes.
XX
OS Homo sapiens.
XX
XX Key location/qualifiers
FH Misc-difference 20
FT /note= "wild type lys substituted with Ser"
FT Misc-difference 29
FT /note= "optionally absent when Arg30 and Gly31 are absent"
FT
FT Misc-difference 30
FT /note= "optionally absent when Gly31 is absent"
FT Misc-difference 31
FT /note= "optionally absent"
XX
XX US5545618-A.
FN
XX 13-AUG-1996.
PD
XX 74-JAN-1997.
XX 90US-0468736.
XX 91US-0762768.
XX 20-SEP-1991;

```

PR 24 JAN-1990; 9005-0468736.
PR 10 DEC-1993; 9305-0165516.
XX
PA (BUCKLEY) BUCKLEY D I.
PA (HABENER) HABENER J F.
PA (MALLORY) MALLORY J B.
PA (MOJISOV) MOJISOV S.
XX
PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
PI WPI: 1996-383697/38.
XX
PS New modified glucagon-like peptide 1 fragments - have higher
PS activity than glucagon or have improved plasma stability, useful for
PS treating type II diabetes
XX
PS Example 1; page -: 16pp; English.
XX
CC The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
XX
CC
XX
SO Sequence 31 AA:

Query Match 93.1%; Score 135; DB 17; Length 31;
Best Local Similarity 93.1%; Pred. No. 1.2e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 AEGFTSDVSSYLEGQAAEFIAWLVKGR 29
Db 2 AEGFTSDVSSYLEGQAAEFIAWLVKGR 30

RESULT 2
AAW03902
ID AAW03902 standard; peptide; 31 AA.
XX
AC AAW03902;
XX
DE 15-APR-1997 (first entry)
XX
DE Glucagon like peptide 1 (7-37) analogue Ala26.
XX
KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX
OS Homo sapiens.
XX
XX
FH Key Location/Qualifiers
FH FT Misc difference 20
FH FT /note- "Wild type Lys substituted with Ala"
FH FT Misc difference 29
FH FT /note- "optionally absent when Arg30 and Gly31 are
FH FT absent"
FH FT Misc difference 30
FH FT /note- "optionally absent when Gly31 is absent"
FH FT Misc difference 31
FH FT /note- "optionally absent"
XX
XX
XX US5545618-A.
XX
XX 13 AUG 1996.
XX
XX 24 JAN 1990; 9005-0468736.
XX
XX 20-SEP-1991; 9105-0762768.
XX
XX 24 JAN 1990; 9005-0468736.
XX
XX 10-DEC-1993; 9305-0165516.
XX
XX (BUCKLEY) BUCKLEY D I.
XX (HABENER) HABENER J F.

```

```

PA (MALLORY) MALLORY J B.
PA (MOJISOV) MOJISOV S.
XX
PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
PI WPI: 1996-383697/38.
XX
PS New modified glucagon-like peptide 1 fragments - have higher
PS activity than glucagon or have improved plasma stability, useful for
PS treating type II diabetes
XX
PS Example 1; page -: 16pp; English.
XX
CC The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
XX
CC
XX
SO Sequence 31 AA:

Query Match 93.1%; Score 135; DB 17; Length 31;
Best Local Similarity 93.1%; Pred. No. 1.2e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 AEGFTSDVSSYLEGQAAEFIAWLVKGR 29
Db 2 AEGFTSDVSSYLEGQAAEFIAWLVKGR 30

RESULT 3
AAW50905
ID AAW50905 standard; peptide; 29 AA.
XX
AC AAW50905;
XX
DE 17-AUG-1998 (first entry)
XX
DE Glucagon-like peptide-1 analogue SEQ ID NO:4.
XX
KW Glucagon-like peptide-1; GLP-1 (7-37); GLP 1 analogue; surgical trauma;
KW stress; hormonal response; insulin resistance; catabolic reaction;
KW human; incretin hormone.
XX
XX
OS Synthetic.
OS Homo sapiens.
XX
XX
FH Key Location/Qualifiers
FH FT Modified-site 1
FH FT /note- "Ala is modified with: 4-imidazopropionyl;
FH FT 4-imidazoacetyl; or
FH FT 4-imidazo-alpha,alpha-dimethyl-acetyl"
FH FT Misc difference 19
FH FT /label= Lys, Arg
FH FT Modified-site 27
FH FT /note- "Lys is optionally modified with a group
FH FT consisting of C6-C10 unbranched acyl"
FH FT Modified-site 29
FH FT /note- "amidated; or attached to Gly-OH"
XX
XX
XX WO9808873-A1.
XX
XX 05-MAR-1998.
XX
XX 26-AUG-1997; 97WO-0515042.
XX
XX 21-AUG-1997; 97US-0024982.
XX
XX 30-AUG-1996; 96US-0024982.
XX
XX (LILLY) LILLY & CO ELI.
XX
XX Efavdinic S;

```

DR WPI: 1398-239722/21.

XX Use of glucagon-like peptide 1 and analogues and their derivatives
PT - to attenuate post-surgical catabolic changes, insulin resistance
PS and hormonal responses to stress
XX

PS Claim 1: Page 12; 42pp; English.

XX The present sequence represents a glucagon-like peptide-1 (GLP-1)
CC analogue, which is used in the methods of the invention. The methods
CC are: (1) for attenuating post-surgical catabolic changes and insulin
CC resistance, comprising administering glucagon-like peptide-1 (GLP-1), a
CC GLP-1 analogue, a GLP-1 derivative, or a salt of this compound; (2) for
CC attenuating post-surgical catabolic changes and hormonal responses to
CC stress, comprising administering a compound which exerts insulinotropic
CC activity by interacting with the same receptor (or receptors) with which
CC GLP-1, GLP-1 analogues and GLP-1 derivatives interact in exerting their
CC insulinotropic activity, and (3) for attenuating post-surgical catabolic
CC changes and hormonal responses to stress, comprising administering a
CC compound which enhances insulin sensitivity by interacting with the same
CC receptor (or receptors) with which GLP-1, GLP-1 analogues and GLP-1
CC derivatives interact to enhance insulin sensitivity. The processes are
CC useful for improving recovery after surgery by preventing the catabolic
CC reaction and insulin resistance caused by surgical trauma and
CC exacerbated by pre-operative fasting. GLP-1's short half-life, and hence
CC the need for continuous administration, are not disadvantages, as the
CC patient is usually hospitalized before surgery, and fluids are
CC continuously administered parenterally, before, during and after surgery.
XX

SO Sequence 29 AA:

Query Match 92.4%, Score 134, DB 15, Length 29,
Best Local Similarity 96.6%; Pred. No. 1.6e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

Db 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

RESULT 4

ID AAY83148 standard; peptide; 29 AA.

XX AAY83148;

DT 24-JUL-2000 (first entry)

XX Glucagon-like peptide-1.

XX Glucagon-like peptide-1, GLP-1, treatment, pulmonary; inhalation;

KW lungs; diabetes; hyperglycaemia.

XX Synthetic.

OS Key Location/Qualifiers

PT Misc-difference 19 /note- "lys or Arg"

XX WO200012116 A1.

PD 09-MAR-2000

XX 24-AUG-1999; 99WO-US19348.

XX 28-AUG-1998; 98US-0098273.

XX 11-SEP-1998; 98US-0100812.

XX (Elli.) Lilly & Co B.I.

XX Hughes BL, Wolff RK;

XX WPI: 2000-237776/20.

XX Administration of glucagon-like peptide-1 molecule by pulmonary means,

PT useful for treating diabetes and hyperglycemia

XX Disclosures; Page 42; 45pp; English.

XX Administration of a glucagon-like peptide 1 (GLP-1) molecule by
CC inhalation can be used to treat diabetes and hyperglycemia.
CC Analogs and derivatives of the GLP-1 molecule can also be used in
CC the treatment method. The GLP-1 molecule can be reproducibly and
CC effectively delivered through the lungs.

SO Sequence 29 AA:

Query Match 92.4%, Score 134, DB 21, Length 29,
Best Local Similarity 96.6%; Pred. No. 1.6e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

Db 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

RESULT 5

ID AAR45435 standard; protein; 30 AA.

XX AAR45435;

DT 27-JUN-1994 (first entry)

XX Insulinotropic derivative.

XX Insulinotropic activity; enhancing insulin activity; treatment;

KW Type II diabetes.

XX Synthetic.

XX W0932579-A.

PD 23-DEC-1993.

XX 14-APR-1993; 93WO-US03388.

XX 15-JUN-1992; 92US-0899073.

XX (Pfizer) Pfizer Inc.

XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;

XX WPI: 1994-007457/01.

XX New derivs. of glucagon-like peptide 1 and insulinotropic - used for
PT enhancing insulin action in a mammal, partic. by iontophoretic admin.

XX Claim 3: Page 20; 32pp; English.

XX The sequence is that of a derivative of insulinotropic which
CC has insulinotropic activity and is useful for enhancing insulin
CC action in a mammal, partic. for treating type II diabetes
CC (claimed). It is partic. suited for delivery to a mammal by
CC iontophoresis.

SO Sequence 30 AA:

Query Match 92.4%, Score 134, DB 15, Length 30,
Best Local Similarity 93.1%; Pred. No. 1.7e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 29

Db 2 AEGFTSDVSSYLEGQAAKEFIAMLVKGR 30

RESULT 6
 AAR63247
 ID AAR63247 standard; peptide: 30 AA.
 AC AAR63247;
 DT 02 MAY-1995 (first entry)
 DE Insulinotropin (GIP-1(7-36)) for use in treating NIDDM.
 XX
 KW Insulinotropic activity; GLP-1; glucagon-like protein 1; NIDDM;
 XX non-insulin dependent diabetes mellitus; insulinotropin; truncated.
 OS Synthetic.
 PN EP619322-A.
 PD 12-OCT-1994.
 PE 10-FEB-1994; 94EP-0300981.
 PR 07-APR-1993; 93US-0044133.
 PS (PEIZ) PEIZER INC.
 PA (PEIZ) PEIZER CORP.
 XX
 PI Danley DE, Gelfand RA, Geoghagan KF, Kim Y, Lambert WJ;
 PI Or H, Oth, Hong O, Yosook K;
 DR WPI: 1994-311774/39
 PT Treatment of non-insulin dependent diabetes mellitus - using a
 PT glucagon-like peptide 1 or deriv. with prolonged action for
 PT sustained glycemic control
 XX
 PS Claim 2; Page 46; 70pp; English.
 CC This peptide is GLP-1(7-36) [GIP = glucagon-like peptide], a truncated
 CC deriv. of GLP-1, and its deriv's are useful in the treatment of
 CC Non-Insulin dependent Diabetes Mellitus (NIDDM). During processing in
 CC the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino
 CC acid peptide having amino acids 7-37 of GLP-1, alternatively referred
 CC to as insulinotropin. GLP-1(7-37) has insulinotropic activity, ie. it
 CC is able to stimulate, or cause to be stimulated, the synthesis of the
 CC hormone insulin. Other derivs. of GLP-1 are shown in AAR63246-51. It
 CC has been discovered that prolonged plasma elevations of GLP-1, and
 CC related polypeptides, are necessary during the meal and beyond to
 CC achieve sustained glycemic control in patients with NIDDM. The invention
 CC provides a compsn. that has prolonged action after each administration.
 CC
 SO Sequence 30 AA;
 QY Query Match 92.4%; Score 134; DB 15; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 DB 1 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 29
 2 AEGTFTSDVSSYLEGQAAKEFIAWEVKGR 30
 RESULT 7
 AAR69063
 ID AAR69063 standard; peptide: 30 AA.
 AC AAR69063;
 DT 23 AUG-1995 (first entry)
 DE Amidated glucagon like peptide 1 (GLP1) (7-36)-NH2.
 XX
 KW Glucagon Like Peptide; GLP; transpeptidation; endopeptidase;

KW trypsin; thrombin; cleavage.
 XX
 OS Synthetic.
 XX
 FH Key location/Qualifiers
 FT Modified-site 30
 FT /label= Arg-NH2
 XX
 PN W09505405-A.
 PD 02-FEB-1995.
 PE 19-JUL-1994; 94WO-0508125.
 PR 20-JUL-1993; 93US-0095162.
 PA (BION-) BIONEHRASKA INC.
 XX
 PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
 DR WPI: 1995-075233/10.
 PT Transpeptidation of recombinant polypeptides - using
 PT endopeptidase such as trypsin or thrombin to modify C-terminal
 PT residue.
 XX
 PS Claim 33; Page 50; 69pp; English.
 CC The naturally occurring sequence of Glucagon like peptide 1 (GLP1)
 CC is AAR69072. It is a 36 AA peptide that has been recombinantly
 CC produced but without a mechanism for providing for the amidation of
 CC the C-terminal Arg residue. Amidated recombinant GLP1 (7-36)NH2
 CC (AAR69063) was prepd. from a multicopy fusion protein contg. four
 CC copies of a modified truncated GLP peptide having AA residues 7-34
 CC of the native polypeptide and the terminal AA residues A-F-A at
 CC residues 35-37 (GLP1 (7-34)-A-F-A) (AAR69064). The recombinant GLP1 (7-
 CC 34)-A-F-A can be transpeptidated to yield the modified recombinant
 CC native GLP1 (7-36)-NH2 (AAR69063) as follows. Trypsin was used to
 CC cleave the peptide at the Lys-Ala bond in the presence of either
 CC Gly-Arg-NH2 or Gly-Arg-Gly addition units so that the cleavage of
 CC the Ala-Phe-Arg leaving unit is followed by the addition of
 CC Gly-Arg-NH2 or Gly-Arg-Gly to the core GLP1 (7-34) to yield either
 CC amidated 7-36 GLP1-NH2 or GLP1 7-36 with a terminal Gly (AAR69065).
 CC
 SO Sequence 30 AA;
 QY Query Match 92.4%; Score 134; DB 16; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 DB 1 AAGTFTSDVSSYLEGQAAKEFIAWEVKGR 29
 2 AEGTFTSDVSSYLEGQAAKEFIAWEVKGR 30
 RESULT 8
 AAR79809
 ID AAR79809 standard; peptide: 30 AA.
 AC AAR79809;
 DT 01-FEB-1996 (first entry)
 DE Glucagon like peptide GLP-1 (7-36)amide.
 XX
 KW Glucagon like peptide; GLP-1 (7-36)amide; type II diabetes;
 KW non-insulin dependent; divalent metal cation; zinc.
 OS Synthetic.
 PN
 PD
 PE
 PR
 PA
 PI Key location/Qualifiers
 PI Modified-site 30
 PI /note= "amidated"

```

XX  EP658568-A1.
PN  21-JUN-1995.
XX
XX  02-DEC-1994; 94EP-0308950.
XX
XX  09-DEC-1994; 93NS-0164277.
XX
XX  (HILL) LILLY & CO HLL.
XX
XX  Galloway JA, Hoffmann JA.
XX
XX  WPI: 1995-217011/29.
XX
XX  New divalent metal complexes of glucagon like peptide 1 - useful for
XX  treating type II diabetes
XX
XX  Claim 4; Page 4; 10pp; English.
XX
XX  AAR80548 is the glucagon like peptide GLP-1 (7-46)amide. When
XX  CC  complexed to a divalent metal cation (pref. zinc) it can be
XX  CC  used to treat type II (non insulin dependent) diabetes.
XX
XX  Sequence 30 AA:
XX
XX  Query Match          92.4%; Score 134; DB 16; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
XX
QY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
DB  2 ARCTFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 9
AAR80548
ID  AAR80548 standard; peptide; 30 AA.
XX
XX  AAR80548:
XX
XX  28-FEB-1996 (first entry)
XX
XX  Human glucagon like peptide (GLP-1).
XX
XX  Exendin-4; diabetes mellitus; hyperglycaemia;
XX  KM  insulinotropic peptide; glucagon like peptide; GLP-1.
XX
XX  Homo sapiens.
XX
XX  US5424286-A.
XX
XX  13-JUN-1995.
XX
XX  24-MAY-1994; 93NS-0066480
XX
XX  24-MAY-1993; 93US 0066480.
XX
XX  (ENCUJ) ENG J.
XX
XX  Eng J.
XX
XX  WPI: 1995-262627/34.
XX
XX  Stimulating/inhibiting insulin release with exendin polypeptide(s)
XX  PT  for treating diabetes mellitus and preventing hyperglycaemia.
XX
XX  Disclosure; Columns 5-6; 17pp; English.
XX
XX  AAR80548 is the human glucagon like peptide (GLP-1), to which the
XX  CC  Heloderma horridum/suspectum exendin-3/-4 peptides are analogous.
XX  CC  The exendin peptides are insulinotropic, and can therefore be used
XX  CC  in the treatment of diabetes mellitus (types I or II), and for the

```

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CC  prevention of hyperglycaemia.
XX
XX  Sequence 30 AA:
XX
XX  Query Match          92.4%; Score 134; DB 16; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
XX
QY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
DB  2 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 10
AAR80548
ID  AAR80548 standard; peptide; 30 AA.
XX
XX  AAR80548:
XX
XX  15-JAN-1997 (first entry)
XX
XX  Target peptide (GLP1(7-36)) used in fusion protein construct.
XX
XX  Fusion protein construct; isolation; purification;
XX  KM  growth hormone releasing factor; glucagon-like peptide 1;
XX  KM  parathyroid hormone; inclusion body; carbonic anhydrase.
XX
XX  Synthetic.
XX
XX  WO9617942-A1.
XX
XX  13-JUN-1996.
XX
XX  07-DEC-1995; 95WC-US15800.
XX
XX  07-DEC-1994; 94NS-0150530.
XX
XX  (BION-) BIONEER/BRASKA INC.
XX
XX  De JA MOTTE RS, Henrikson DH, Holmquist B, Manning SD;
XX  PI  Partridge HE, Stout JS, Wagner FW;
XX
XX  WPI: 1996-287186/29.
XX
XX  Isolation and purification of peptide(s) from fusion protein constructs
XX  PT  - which include a carbonic anhydrase and a variable fused
XX  PI  polypeptide
XX
XX  Claim 58; Page 50; 67pp; English.
XX
XX  A new method for the isolation and/or purification of a recombinant
XX  CC  peptide employs a fusion protein construct (FPC) comprising a
XX  CC  carbonic anhydrase and a variable fused polypeptide containing a
XX  CC  target peptide. The method comprises precipitating either the FPC or
XX  CC  a fragment of the FPC including the carbonic anhydrase. An
XX  CC  alternative method of producing the peptide comprises expressing the
XX  CC  FPC as part of an inclusion body. The target peptides of the FPC are
XX  CC  derived from growth hormone releasing factor (GRF), glucagon-like
XX  CC  peptide 1 (GLP1) or parathyroid hormone (PTH). This sequence
XX  CC  corresponds to amino acids 7-36 of GLP1.
XX
XX  Sequence 30 AA:
XX
XX  Query Match          92.4%; Score 134; DB 17; Length 30;
XX  Best Local Similarity 93.1%; Pred. No. 1,7e-13;
XX  Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
XX
QY  1 AEGFTSDVSSYLEGQAAKEFIAWEVKGR 29
DB  2 ARCTFTSDVSSYLEGQAAKEFIAWEVKGR 30

RESULT 11

```


XX N-terminally truncated GLP-1 analog #16.
 DE Truncation, glucagon-like insulinotropic peptide; GLP, proglucagon;
 XX chemical synthesis; proteolysis; fragmentation; recombinant DNA; glucose;
 KW stimulation; secretion; serum uptake; diabetes mellitus; hyperglycaemia.
 XX Synthetic.
 OS
 XX EIP69686-A2.
 PN
 XX 06-MAR-1996.
 PD
 XX 25-AUG-1995; 95EP-0305963.
 PF
 XX 30-AUG-1994; 94US-0297731.
 PR
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Johnson WT, Yakubu matus FE;
 PI
 XX WPI: 1996-130713/14.
 DR
 XX New C-terminal fragments of glucagon-like peptide GLP-1 - useful as
 PT hypoglycaemic agents for treating diabetes
 PS
 XX Claim 16; Page 22; 23pp; English.
 SQ
 XX Peptides AAG9045-60 represent examples of novel N-terminally truncated
 CC glucagon-like insulinotropic peptide (GLP)-1 peptides. The peptides can
 CC be synthesised chemically, derived by proteolytic fragmentation of
 CC proglucagon or produced by recombinant DNA technology. This peptide
 CC represents residues 8-37 of the full length GLP-1. The novel peptides
 CC lack the insulinotropic activity of GLP-1 i.e. they do not stimulate
 CC secretion of insulin, whilst retaining an activity allowing increased
 CC serum uptake of glucose. The peptides are thus useful for treating
 CC diabetes mellitus or hyperglycaemia.
 CC
 XX Sequence 30 AA:
 SQ
 XX
 XX Query Match 92.4%; Score 134; DH 17; Length 30;
 XX Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 XX Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0.
 QY 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 DB 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 QY 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 DB 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 RESULT 14
 AAM16383
 ID AAM16383 standard; peptide; 30 AA.
 AC AAM16383;
 XX
 XX 01-OCT-1997 (first entry)
 DT
 XX Glucagon-like peptide-1(7-36).
 DE
 XX Glucagon-like peptide-1(7-36); GLP-1 (7-36); Insulin secretagogue;
 KW Insulinotropic hormone type II diabetes mellitus therapy
 KW
 XX Rattus sp.
 OS
 XX US5614492-A.
 PN
 XX 25-MAR-1997.
 PD
 XX 05-MAY-1986; 86US-0859928.
 PF
 XX 05-SEP-1991; 91US-0756215.
 PR 05-MAY-1986; 86US-0859928.
 PR 26-JAN-1988; 88US-0148517.

PR 01-JUN-1990; 90US-0532111.
 PF 23-NOV-1994; 94US-0156800.
 XX
 XX (GENO) GEN HOSPITAL CORP.
 PA
 XX Habener JF;
 PI
 XX WPI: 1997-201513/18.
 DR
 XX Glucagon-like peptide-1 fragment comprising amino acids 7-36 -
 PT useful for enhancing insulin production in pancreatic islet cells,
 PT especially for treating type II diabetes mellitus
 PS
 XX Claim 1; Column 34; 37pp; English.
 SQ
 XX Glucagon-like peptide-1 (7-36) (AAM16383) comprises amino acid
 CC residues 7-36 of rat glucagon-like peptide-1 (GLP-1) (see also
 CC AAM16384). It is naturally produced from GLP-1 in the intestine
 CC and to a lesser extent in the pancreas. GLP-1(7-36) has
 CC insulinotropic activity, being able to stimulate the synthesis
 CC and secretion of insulin from the pancreas. It can be produced
 CC by chemical synthesis or by proteolytic digestion of GLP-1 for use
 CC as an insulin secretagogue or for the treatment of type II diabetes
 CC mellitus.
 CC
 XX Sequence 30 AA:
 SQ
 XX
 XX Query Match 92.4%; Score 134; DH 18; Length 30;
 XX Best Local Similarity 93.1%; Pred. No. 1.7e-13;
 XX Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0.
 QY 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 DB 2 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 30
 QY 1 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 29
 DB 2 AAGTFTSDVSSYLHGQAAKEFIAMFVKGR 30
 RESULT 15
 AAM63288
 ID AAM63288 standard; peptide; 30 AA.
 AC AAM63288;
 XX
 XX 23-SEP-1998 (first entry)
 DT
 XX Glucagon-like peptide-1 (7-36) amide.
 DE
 XX GLP-1; glucagon-like peptide; obesity.
 KW
 XX Homo sapiens.
 OS
 XX Key location/Qualifiers
 FH Modified-site 30
 FT note="C-terminal amide"
 FT
 XX W09819698-A1.
 PN
 XX 14-MAY-1998.
 PD
 XX 04-NOV-1997; 97WO-US20114.
 PF
 XX 30-MAY-1997; 97US-0661405
 PR 05-NOV-1996; 96US-0030213
 PR
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Dimarchi RD, Etendie S;
 PI
 XX WPI: 1998-286595/25.
 DR
 XX Use of glucagon-like peptide-1 and analogues and derivatives - to
 PT reduce body weight, e.g., in treatment of obesity
 PT
 XX Claim 12; Page 18; 42pp; English.
 PS

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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:25:13 : Search time 19.322 seconds
(without alignments)

45.683 Million cell updates/sec

Title: US-09-868-974-3

Perfect score: 145

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Scoring table:

EU/STMG2
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Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database:

Issued_Patents_AA:*
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6: /cgn2_6/ptodata/1/1aa/5A.COMB.pcp.*

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	29	1	US-08-324-960-1
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4	134	92.4	30	1	US-08-066-480-6
5	134	92.4	30	1	US-08-095-162-1
6	134	92.4	30	1	US-08-297-731-12
7	134	92.4	30	1	US-08-470-220A-1
8	134	92.4	30	2	US-08-967-327-1
9	134	92.4	30	2	US-08-967-327-1
10	134	92.4	30	4	US-09-348-136-1
11	134	92.4	30	4	US-08-961-405A-4
12	134	92.4	30	4	US-08-961-405A-5
13	134	92.4	30	4	US-08-915-918A-5
14	134	92.4	30	4	US-08-915-918A-5
15	134	92.4	30	4	US-09-302-349-3
16	134	92.4	30	4	US-08-472-349-3
17	134	92.4	30	4	US-09-333-415-4
18	134	92.4	30	4	US-09-585-181A-3
19	134	92.4	30	4	US-09-585-181A-3
20	134	92.4	30	4	US-09-209-7990-7
21	134	92.4	30	4	US-09-209-7990-10
22	134	92.4	30	4	US-09-975-905-1
23	134	92.4	30	4	US-08-505-901-1
24	134	92.4	30	4	US-09-573-804-1
25	134	92.4	30	4	US-09-573-804-1
26	134	92.4	30	4	US-09-512-663-4
27	134	92.4	30	5	US-09-512-663-4

28	134	92.4	30	5	US-09-15890-27	Sequence 1, Appl 1
29	134	92.4	31	1	US-09-325-951-1	Sequence 1, Appl 1
30	134	92.4	31	1	US-08-095-162-3	Sequence 3, Appl 1
31	134	92.4	31	1	US-08-295-913A-1	Sequence 1, Appl 1
32	134	92.4	31	1	US-08-470-220A-1	Sequence 3, Appl 1
33	134	92.4	31	2	US-08-807-263-3	Sequence 3, Appl 1
34	134	92.4	31	3	US-08-967-374-3	Sequence 3, Appl 1
35	134	92.4	31	4	US-08-961-405A-1	Sequence 1, Appl 1
36	134	92.4	31	4	US-09-258-750-1	Sequence 1, Appl 1
37	134	92.4	31	4	US-08-915-918A-1	Sequence 1, Appl 1
38	134	92.4	31	4	US-08-302-349-3	Sequence 1, Appl 1
39	134	92.4	31	4	US-08-472-349-3	Sequence 2, Appl 1
40	134	92.4	31	4	US-09-623-618B-2	Sequence 2, Appl 1
41	134	92.4	31	4	US-09-623-618B-17	Sequence 17, Appl 1
42	134	92.4	31	4	US-09-623-618B-27	Sequence 27, Appl 1
43	134	92.4	31	4	US-08-573-804-1	Sequence 28, Appl 1
44	134	92.4	31	4	US-09-333-415-3	Sequence 3, Appl 1
45	134	92.4	31	4	US-09-209-7990-1	Sequence 1, Appl 1

ALIGNMENTS

RESULT 1
US-08-324-960-1
Sequence 1, Application US/08324960
Patent No. 5512549

GENERAL INFORMATION:
APPLICANT: Chen, Victor J.
APPLICANT: Dimatch, Richard D.
APPLICANT: Smiley, David L.
APPLICANT: Stucky, Russell D.
APPLICANT: Kriaukunas, Aldas V.
TITLE OF INVENTION: Glucagon Like Insulinotropic Peptide
TITLE OF INVENTION: Analogs, Compositions, and Methods of Use
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company
STREET: Lilly Corporate Center, Patent Division
CITY: Indianapolis
STATE: Indiana
COUNTRY: United States
ZIP: 46285

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/324,960
FILING DATE: October 18, 1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Matick, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X-9079
TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ. ID NO. 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: protein
LOCATION: C1
OTHER INFORMATION: /label- N-terminal modifications
OTHER INFORMATION: /note - "cysteine moiety"
FEATURE:
NAME/KEY: protein

LOCATION: 19
OTHER INFORMATION: /label- substitution
OTHER INFORMATION: /note- "Xaa-Lysine or Arginine"
FEATURE:
NAME/KEY: Protein
LOCATION: 27
OTHER INFORMATION: /label- acylation
OTHER INFORMATION: /note- "Epsilon amino group is C6-C10 acylated"
FEATURE:
NAME/KEY: Protein
LOCATION: 29
OTHER INFORMATION: /label- C-terminus
OTHER INFORMATION: /note- "C-terminus is OH or glycine-OH"
US-08-960-1

Query Match 92.4% Score 134; DB 1; Length 29;
Best Local Similarity 96.6%; Pred. No. 7.7e-14;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29

RESULT 2
US-08-297-741-11
Sequence 11, Application US/08297741
Patent No. 5574008
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company/BSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/297 741
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Maciak, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Modified-site
LOCATION: 28..29
OTHER INFORMATION: /note- "C-terminal amide"
US-08-297-741-11

Query Match 92.4% Score 134; DB 1; Length 29;
Best Local Similarity 94.1%; Pred. No. 7.7e-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29

RESULT 3
PCT-US95-10793-11
Sequence 11, Application PC/TUS9510793
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
APPLICANT: Yakubu-Madus, Fatima F.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company/BSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/10793
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Maciak, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Modified-site
LOCATION: 28..29
OTHER INFORMATION: /note- "C-terminal amide"
PCT-US95-10793-11

Query Match 92.4% Score 134; DB 5; Length 29;
Best Local Similarity 93.1%; Pred. No. 7.7e-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAWLVKGR 29

RESULT 4
US-08-066-480-6
Sequence 6, Application US/08066480
Patent No. 5424286
GENERAL INFORMATION:
APPLICANT: Eng, John
TITLE OF INVENTION: Pharmaceutical Compositions And Use of
TITLE OF INVENTION: Exendin-3 and Exendin-4 for Treatment of Diabetes Mellitus
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Allegraelli & Wilcoff, Ltd.
STREET: 10 S. Wacker Drive
CITY: Chicago

STATE: Illinois
COUNTRY: USA
ZIP: 60606
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/066,480
FILING DATE: 24-MAR-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: McDowell, John J.
REGISTRATION NUMBER: 26,949
REFERENCE/DOCKET NUMBER: 93,084
TELEPHONE: 312-715-1000
TELEFAX: 312-715-1234
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1-30
OTHER INFORMATION: /label= GI-1-7-36
US-08-066-480-6
OTHER INFORMATION: /note= GI-1-7-36) fragment"

Query Match 92.4%, Score 134, DB 1, Length 30;
Best local Similarity 93.1%, Pred. No. 8e-14, 2, Indels 0, Gaps 0,
Matches 27; Conservative 0, Mismatches 2, Indels 0, Gaps 0,

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 30

RESULT 5
US-08-095-162-1
Sequence 1, Application US/08/95162
Patent No. 5512459
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
TITLE OF INVENTION: Recombinant Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESS: Merchant & Gould
STREET: 3100 No. 5512459 West Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/095,162
FILING DATE: 20-JUL-1993
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Nelson, Albin J.

REGISTRATION NUMBER: 28,659
REFERENCE/DOCKET NUMBER: 8648,32 US01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-442-5300
TELEFAX: 612-342-9081
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GI-1 7-36-NH2 (Glucagon-like peptide)
US-08-095-162-1

Query Match 92.4%, Score 134, DB 1, Length 30;
Best local Similarity 93.1%, Pred. No. 8e-14, 2, Indels 0, Gaps 0,
Matches 27; Conservative 0, Mismatches 2, Indels 0, Gaps 0,

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 2 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 30

RESULT 6
US-08-297-731-12
Sequence 12, Application US/08/297731
Patent No. 5574008
GENERAL INFORMATION:
APPLICANT: Johnson, William T.
APPLICANT: Yakubu Madus, Fatima B.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE FRAGMENTS OF
TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESS: Lilly and Company/KSM
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN
COUNTRY: USA
ZIP: 46285
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/297,731
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Magick, Ronald S.
REGISTRATION NUMBER: 35,262
REFERENCE/DOCKET NUMBER: X9630
TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-1664
TELEFAX: 317-277-1917
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-297-731-12

Query Match 92.4%, Score 134, DB 1, Length 30;
Best local Similarity 93.1%, Pred. No. 8e-14, 2, Indels 0, Gaps 0,
Matches 27; Conservative 0, Mismatches 2, Indels 0, Gaps 0,

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29
DB 1 AEGFTSDVSSYLEGQAAKEFIAMLYKGR 29

```

RESULT 7
US-08-470-220A-1
: Sequence 1, Application US/08470220A
: Patent No. 5707826
:
GENERAL INFORMATION:
: APPLICANT: Warner, Fred W.
: APPLICANT: Stout, Jay
: APPLICANT: Henriksen, Dennis
: APPLICANT: Partidge, Bruce
: APPLICANT: Manning, Shane
: TITLE OF INVENTION: Enzymatic Method for Modification of
: TITLE OF INVENTION: Recombinant Polypeptides
: NUMBER OF SEQUENCES: 26
:
CORRESPONDENCE ADDRESS:
: ADDRESSEE: Merchant & Gould
: STREET: 4100 No. 5707826west Center
: CITY: Minneapolis
: STATE: MN
: COUNTRY: USA
: ZIP: 55402
:
COMPUTER READABLE FORM:
: MEDIUM TYPE: Floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent In Release #1.0, Version #1.25
:
CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08470-220A
: FILING DATE: 06-JUN-1995
: CLASSIFICATION: 415
:
PRIOR APPLICATION DATA:
: APPLICATION NUMBER: US-08/095,162
: FILING DATE: 20-JUL-1993
:
ATTORNEY/AGENT INFORMATION:
: NAME: Nelson, Albin J.
: REGISTRATION NUMBER: 28,659
: REFERENCE/DOCKET NUMBER: 8648-32-US01
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 612-332-5300
: TELEFAX: 612-332-9081
:
INFORMATION FOR SEQ ID NO: 1:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 30 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: IMMEDIATE SOURCE:
: CLONE: GLP1 7-36-NH2 (Glucagon-like Peptide)
:
US-08-470-220A-1
:
Query Match 92.4% Score 134; DB 1; Length 30;
Best Local Similarity 94.1%; Pval: No, 8e-14;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0.
:
DY 1 ACCTGTSVSSYLEGDAKXEFIAWEYKSR 29
| | | | | | | | | | | | | | | | | |
DB 2 ADGTFVSVSSYLEGDAKXEFIAWEYKSR 30
:
RESULT 8
US-08-927-227-1
: Sequence 1, Application US/08927227A
: Patent No. 5877071
:
GENERAL INFORMATION:
: APPLICANT: Galloway, James A.
: APPLICANT: Holliman, James A.
: TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE ANALOGS,
: TITLE OF INVENTION: COMPOSITIONS AND METHODS
: FILE REFERENCE: X 9332H
: CURRENT APPLICATION NUMBER: US/08/927-227A
: CURRENT FILING DATE: 1997-09-10
: NUMBER OF SEQ ID NOS: 1

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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 1
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: The arginine residue at position 30 is modified so
OTHER INFORMATION: as to replace the terminal carboxyl group with an
US-08-927-227-1

Query Match: 92.4%, Score 134, DB 2; Length 30;
Best Local Similarity 92.1%, Pred. No. 8e-14; 2; Indels 0; Gaps 0;
Matches 27; Conservative 0; Mismatches 2;

OY 1 ACCTPTSDVSSYLEGQAAKEFLIAWVKCR 29
      |||
Db 2 AEGFTSDVSSYLEGQAAKEFLIAWVKCR 30

RESULT 9
US-08-967-374-1
Sequence 1, Application US/08967374
Patent No. 6037143
GENERAL INFORMATION:
APPLICANT: Wagner, Fred W.
APPLICANT: Stout, Jay
APPLICANT: Henriksen, Dennis
APPLICANT: Partridge, Bruce
APPLICANT: Manning, Shane
TITLE OF INVENTION: Enzymatic Method for Modification of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSER: Merchant & Gould
STREET: 4100 No. 6047141st Center
CITY: Minneapolis
STATE: MN
COUNTRY: USA
ZIP: 55402
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/967,374
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/520,485
FILING DATE: 29-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: Carlier, Charles G.
REGISTRATION NUMBER: 35,093
REFERENCE/CORRET NUMBER: 8E4R 32-USDI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 612-332-5300
TELEFAX: 612-332-9081
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
CLONE: GLP1 7-36-NH2 (Glucagon-like Peptide)
US-08-967-374-1

Query Match: 92.4%, Score 134; DB 3; Length 30;
Best Local Similarity 92.1%, Pred. No. 8e-14; 2; Indels 0; Gaps 0;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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OY 1 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 29
 DB 2 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 30

RESULT 10
 US-09-348-136-1
 : Sequence 1, Application US/09348136
 : Patent No. 6133235
 : GENERAL INFORMATION:
 : APPLICANT: Galloway, James A.
 : APPLICANT: Hoffmann, James A.
 : TITLE OF INVENTION: GLUCAGON-LIKE INSULINOTROPIC PEPTIDE ANALOGS,
 : FILE REFERENCE: X-9332B
 : CURRENT APPLICATION NUMBER: US/09/348,136
 : PRIOR FILING DATE: 1997-09-10
 : NUMBER OF SEQ ID NOS: 1
 : SOFTWARE: PatentIn Ver. 2.0
 : SEQ ID NO 1
 : LENGTH: 30
 : TYPE: PPT
 : ORGANISM: Homo sapiens
 : FEATURE:
 : OTHER INFORMATION: The arginine residue at position 30 is modified so
 : OTHER INFORMATION: as to replace the terminal carboxyl group with an
 : OTHER INFORMATION: amine.
 US-09-348-136-1

Query Match 92.4%, Score 134, DB 4, Length 30,
 Best Local Similarity 93.1%, Pred. No. 8e-14:
 Matches 27, Conservative 0, Mismatches 2, Indels 0, Gaps 0;
 OY 1 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 29
 DB 2 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 30

RESULT 11
 US-08-961-405A-4
 : Sequence 4, Application US/08961405A
 : Patent No. 6191102
 : GENERAL INFORMATION:
 : APPLICANT: Dimarchi, Richard D.
 : APPLICANT: Etendic, Saad
 : TITLE OF INVENTION: USE OF GIP-1 ANALOGS AND DERIVATIVES
 : TITLE OF INVENTION: ADMINISTERED PERIPHERALLY IN REGULATION OF OBESITY
 : NUMBER OF SEQUENCES: 9
 : CORRESPONDENCE ADDRESS:
 : ADDRESSEE: BARNES & THORNBURG
 : STREET: 200 W Madison, Suite 2601
 : CITY: Chicago
 : STATE: Illinois
 : COUNTRY: USA
 : ZIP: 60606
 : COMPUTER READABLE FORM:
 : MEDIUM TYPE: floppy disk
 : COMPUTER: IBM PC compatible
 : OPERATING SYSTEM: PC-DOS/MS-DOS
 : SOFTWARE: PatentIn Release #1.0, Version #1.30
 : CURRENT APPLICATION DATA:
 : APPLICATION NUMBER: US/08/961,405A
 : FILING DATE: 30-OCT-1997
 : PRIOR APPLICATION DATA:
 : APPLICATION NUMBER: US 60/030,213
 : FILING DATE: 05-NOV-1996
 : ATTORNEY/AGENT INFORMATION:
 : NAME: Martin, Alice O.
 : REGISTRATION NUMBER: 35,601
 : REFERENCE/DOCKET NUMBER: 3051/90264
 : TELECOMMUNICATION INFORMATION:

TELEPHONE: 312-357-1313
 TELEFAX: 312-759-5646
 : INFORMATION FOR SEQ ID NO: 4:
 : SEQUENCE CHARACTERISTICS:
 : LENGTH: 30 amino acids
 : TYPE: amino acid
 : STRANDEDNESS:
 : TOPOLOGY: linear
 : MOLECULE TYPE: peptide
 : FEATURE:
 : NAME/KEY: Modified-site
 : LOCATION: 19
 : OTHER INFORMATION: /product= "lys or Arg"
 : FEATURE:
 : NAME/KEY: Modified-site
 : LOCATION: 30
 : OTHER INFORMATION: /product= "in the peptide's largest
 : OTHER INFORMATION: embedded, position 30 may be a Gly; the peptide may also
 : OTHER INFORMATION: encompass a molecule minus the Gly at position 30"
 US-08-961-405A-4

Query Match 92.4%, Score 134, DB 4, Length 30,
 Best Local Similarity 96.7%, Pred. No. 8e-14:
 Matches 28, Conservative 0, Mismatches 1, Indels 0, Gaps 0;
 OY 1 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 29
 DB 2 ACGFTSDVSSYLEGQAAKEFIAMLYKGR 30

RESULT 12
 US-08-961-405A-5
 : Sequence 5, Application US/08961405A
 : Patent No. 6191102
 : GENERAL INFORMATION:
 : APPLICANT: Dimarchi, Richard D.
 : APPLICANT: Etendic, Saad
 : TITLE OF INVENTION: USE OF GIP-1 ANALOGS AND DERIVATIVES
 : TITLE OF INVENTION: ADMINISTERED PERIPHERALLY IN REGULATION OF OBESITY
 : NUMBER OF SEQUENCES: 9
 : CORRESPONDENCE ADDRESS:
 : ADDRESSEE: BARNES & THORNBURG
 : STREET: 200 W Madison, Suite 2601
 : CITY: Chicago
 : STATE: Illinois
 : COUNTRY: USA
 : ZIP: 60606
 : COMPUTER READABLE FORM:
 : MEDIUM TYPE: floppy disk
 : COMPUTER: IBM PC compatible
 : OPERATING SYSTEM: PC-DOS/MS-DOS
 : SOFTWARE: PatentIn Release #1.0, Version #1.30
 : CURRENT APPLICATION DATA:
 : APPLICATION NUMBER: US/08/961,405A
 : FILING DATE: 30-OCT-1997
 : PRIOR APPLICATION DATA:
 : APPLICATION NUMBER: US 60/030,213
 : FILING DATE: 05-NOV-1996
 : ATTORNEY/AGENT INFORMATION:
 : NAME: Martin, Alice O.
 : REGISTRATION NUMBER: 35,601
 : REFERENCE/DOCKET NUMBER: 3051/90264
 : TELECOMMUNICATION INFORMATION:
 : TELEPHONE: 312-357-1313
 : TELEFAX: 312-759-5646
 : INFORMATION FOR SEQ ID NO: 5:
 : SEQUENCE CHARACTERISTICS:
 : LENGTH: 30 amino acids
 : TYPE: amino acid
 : STRANDEDNESS:
 : TOPOLOGY: linear
 : MOLECULE TYPE: peptide
 US-08-961-405A-5

Query Match 92.4% Score 134: DB 4: Length 30:
Best Local Similarity 93.1% Pred No. 86-14:
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 30

RESULT 14
US-08-915-918A-4
Sequence 4, Application US/08915918A
Patent No. 6277819
GENERAL INFORMATION:
APPLICANT: Etonic, Sued
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF
MYOCARDIAL INFARCTION
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: BRINKS, HOFER, GILSON & LIONE
STREET: NRG Tower, Suite 3600, 455 N. Cityfront
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60611-5599
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,918A
FILING DATE: 21-AUG-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Martin, Alice O.
REGISTRATION NUMBER: 35,601
REFERENCE/BOOKLET NUMBER: 8792/28
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-321-4200
TELEFAX: 312-321-4299
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-915-918A-4

Query Match 92.4% Score 134: DB 4: Length 30:
Best Local Similarity 96.6% Pred No. 86-14:
Matches 28: Conservative 0: Mismatches 1: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 29
|||||
DB 1 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 29

RESULT 14
US-08-915-918A-5
Sequence 5, Application US/08915918A
Patent No. 6277819
GENERAL INFORMATION:
APPLICANT: Etonic, Sued
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF
MYOCARDIAL INFARCTION
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: BRINKS, HOFER, GILSON & LIONE
STREET: NRG Tower, Suite 3600, 455 N. Cityfront

STREET: Plaza Drive
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60611-5599
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/915,918A
FILING DATE: 21-AUG-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Martin, Alice O.
REGISTRATION NUMBER: 35,601
REFERENCE/BOOKLET NUMBER: 8792/28
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312-321-4200
TELEFAX: 312-321-4299
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-915-918A-5

Query Match 92.4% Score 134: DB 4: Length 30:
Best Local Similarity 93.1% Pred No. 86-14:
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 30

RESULT 15
US-09-302-596-4
Sequence 4, Application US/09302596
Patent No. 6284725
GENERAL INFORMATION:
APPLICANT: Coolidge, Thomas R.
TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
Ischemic and Reperused Tissue
FILE REFERENCE: P03660051
CURRENT APPLICATION NUMBER: US/09/302,596
CURRENT FILING DATE: 1999-04-30
PRIOR APPLICATION NUMBER: 60/103,498
PRIOR FILING DATE: 1998-10-08
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patent in Ver. 2.0
SEQ ID NO 4
LENGTH: 30
TYPE: PPT
ORGANISM: mammalian
US-09-302-596-4

Query Match 92.4% Score 134: DB 4: Length 30:
Best Local Similarity 93.1% Pred No. 86-14:
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGQAAXEFLAMEVKGR 30

Search completed: May 13, 2003, 09:34:10
Job time: 19.322 secs

GenCore version 5.1.4.P5.4578
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OM protein - protein search, using SW model

Run on: May 13, 2003, 09:27:47, Search time: 15.2543 seconds
(without alignments)
180,984 Million cell updates/sec

Title: US-09-868-974-3
Perfect score: 145
Sequence: 1 AEGFTSDVSSYLLDQAAKEFLAWYKGR 30

Scoring table:

BLAST/MS62
Gap: 10 0, Gapext: 0 5

Searched: 349150 seqs, 92025710 residues

Total number of hits satisfying chosen parameters: 449150

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 08
Maximum Match 100%

Listing first 45 summaries

Database: Published_Applications_AA:*

1: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB_PEP.*
2: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB_PEP.*
3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB_PEP.*
4: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB_PEP.*
5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB_PEP.*
6: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB_PEP.*
7: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB_PEP.*
8: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB_PEP.*
9: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB_PEP.*
10: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB_PEP.*
11: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB_PEP.*
12: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB_PEP.*
13: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB_PEP.*
14: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB_PEP.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	33	9	US-10-125-255-1
2	134	92.4	30	9	US-09-834-229A-4
3	134	92.4	30	9	US-09-834-229A-5
4	134	92.4	30	9	US-09-834-229A-5
5	134	92.4	30	9	US-09-997-792-7
6	134	92.4	30	9	US-09-997-792-10
7	134	92.4	30	10	US-09-851-738-4
8	134	92.4	30	10	US-09-851-738-4
9	134	92.4	30	10	US-09-851-738-4
10	134	92.4	30	10	US-09-851-738-4
11	134	92.4	30	10	US-09-851-738-4
12	134	92.4	30	10	US-09-851-738-4
13	134	92.4	30	10	US-09-851-738-4
14	134	92.4	30	10	US-09-851-738-4
15	134	92.4	30	10	US-09-851-738-4
16	134	92.4	30	10	US-09-851-738-4
17	134	92.4	30	10	US-09-851-738-4
18	134	92.4	30	10	US-09-851-738-4
19	134	92.4	30	10	US-09-851-738-4

20	134	92.4	31	9	US-10-125-255-1
21	134	92.4	31	9	US-10-125-255-1
22	134	92.4	31	9	US-10-125-255-1
23	134	92.4	31	9	US-10-125-255-1
24	134	92.4	31	9	US-10-125-255-1
25	134	92.4	31	9	US-10-125-255-1
26	134	92.4	31	9	US-10-125-255-1
27	134	92.4	31	9	US-10-125-255-1
28	134	92.4	31	9	US-10-125-255-1
29	134	92.4	31	9	US-10-125-255-1
30	134	92.4	31	9	US-10-125-255-1
31	134	92.4	31	9	US-10-125-255-1
32	134	92.4	31	9	US-10-125-255-1
33	134	92.4	31	9	US-10-125-255-1
34	134	92.4	31	9	US-10-125-255-1
35	134	92.4	31	9	US-10-125-255-1
36	134	92.4	31	9	US-10-125-255-1
37	134	92.4	31	9	US-10-125-255-1
38	134	92.4	31	9	US-10-125-255-1
39	134	92.4	31	9	US-10-125-255-1
40	134	92.4	31	9	US-10-125-255-1
41	134	92.4	31	9	US-10-125-255-1
42	134	92.4	31	9	US-10-125-255-1
43	134	92.4	31	9	US-10-125-255-1
44	134	92.4	31	9	US-10-125-255-1
45	134	92.4	31	9	US-10-125-255-1

ALIGNMENTS

RESULT 1
US-10-125-255-1
Sequence 1: Application US/10125255
Patent No. US20020167342A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, John A
TITLE OF INVENTION: A Calcium-Like Inhibitor for P-glycoses, Catecholamines and Melanin
FILE REFERENCE: X-9333E
CURRENT AFFILIATION NUMBER: US/10/125-255
CURRENT FILING DATE: 2002-04-17
PRIORITY APPLICATION NUMBER: 09/573,809
PRIORITY FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patent version 3.1
SEQ ID NO 1
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: MOD_RES
LOCATION: (30)-(30)
OTHER INFORMATION: The arginine residue at position 30 is modified so as to form a terminal carboxyl group with an amine.
US-10-125-255-1

Query Match: 92.4%, Score 134, DB 3, Length 30,
Best Local Similarity: 93.1%, Pred. No. 1.4e-13:
Matches: 27, Conservative: 0, Mismatches: 2, Indels: 0, Gaps: 0

US-09-834-229A-4
Sequence 4: Application US/09834229A
Patent No. US20020167342A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, John A
TITLE OF INVENTION: A Calcium-Like Inhibitor for P-glycoses, Catecholamines and Melanin
FILE REFERENCE: X-9333E
CURRENT AFFILIATION NUMBER: US/10/125-255
CURRENT FILING DATE: 2002-04-17
PRIORITY APPLICATION NUMBER: 09/573,809
PRIORITY FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 1
SOFTWARE: Patent version 3.1
SEQ ID NO 1
LENGTH: 30
TYPE: PRT
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: MOD_RES
LOCATION: (30)-(30)
OTHER INFORMATION: The arginine residue at position 30 is modified so as to form a terminal carboxyl group with an amine.
US-10-125-255-1

FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/844,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: MISC_FEATURE
LOCATION: (19)..(19)
OTHER INFORMATION: Xaa at position 19 is lys or Arg;
NAME/KEY: MOD_RES
LOCATION: (30)..(30)
OTHER INFORMATION: AMIDATION
NAME/KEY: MISC_FEATURE
LOCATION: (30)..(30)
OTHER INFORMATION: Xaa at position 30 is Gly.
US-09-834-229A-4

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 96.6%; Pred. No. 1,4e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29
DB 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29

RESULT 3
US-09-834-229A-5
Sequence 5, Application US/09834229A
Publication No. US2003002823A1
GENERAL INFORMATION:
APPLICANT: Eli Lilly, Inc.
TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
FILE REFERENCE: X-10822A
CURRENT APPLICATION NUMBER: US/09/834,229A
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US 08/915,918
PRIOR FILING DATE: 1997-08-21
PRIOR APPLICATION NUMBER: US 06/024,980
PRIOR FILING DATE: 1996-08-30
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 5
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-834-229A-5

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29
DB 2 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 30

RESULT 4
US-09-997-792-7
Sequence 7, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:

APPLICANT: Hoffmann, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
NAME/KEY: VARIANT
LOCATION: (19)..(19)
OTHER INFORMATION: Xaa at position 19 is lys or Arg
NAME/KEY: VARIANT
LOCATION: (30)..(30)
OTHER INFORMATION: Xaa at position 30 is Gly or is absent; and Lys at position 30
OTHER INFORMATION: y be acylate
US-09-997-792-7

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 96.6%; Pred. No. 1,4e-13;
Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29
DB 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29

RESULT 5
US-09-997-792-10
Sequence 10, Application US/09997792
Publication No. US2003004546A1
GENERAL INFORMATION:
APPLICANT: Hoffmann, Ronald
APPLICANT: Hoffmann, James
TITLE OF INVENTION: GLUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 30
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic construct
US-09-997-792-10

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Y 1 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 29
DB 2 AEGFTSDVSSYLRGOAAKXEFIAWVKGR 30

RESULT 6
US-10-091-258-4
Sequence 4, Application US/10091258
Publication No. US2003007362A1
GENERAL INFORMATION:
APPLICANT: Halhaway, David R
APPLICANT: Coolidge, Thomas R
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATING PERIPHERAL VASCULAR DISEASE
FILE REFERENCE: RGN-2

;; CURRENT APPLICATION NUMBER: US/10/091,258
;; CURRENT FILING DATE: 2002-03-05
;; NUMBER OF SEQ ID NOS: 13
;; SOFTWARE: PatentIn version 3.1
;; SEQ ID NO: 4
;; TYPE: PRT
;; ORGANISM: mammalian
US-10-091-258-4

Query Match 92.4%; Score 134; DB 9; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
DB 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 7
US-09-851-738-4
;; Sequence 4, Application US/696-1738
;; Patent No. US603005546A1
;; GENERAL INFORMATION:
;; APPLICANT: Coolidge, Thomas R.
;; APPLICANT: Ehlers, Mario R.W.
;; TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of
;; FILE REFERENCE: P03660051
;; CURRENT APPLICATION NUMBER: US/09/851,738
;; CURRENT FILING DATE: 2001-05-09
;; PRIOR APPLICATION NUMBER: 09/302,596
;; PRIOR FILING DATE: 1999-04-30
;; NUMBER OF SEQ ID NOS: 13
;; SOFTWARE: PatentIn Ver. 2.0
;; SEQ ID NO: 4
;; LENGTH: 30
;; TYPE: PRT
;; ORGANISM: mammalian
US-09-851-738-4

Query Match 92.4%; Score 134; DB 10; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
DB 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 8
US-09-805-507-4
;; Sequence 4, Application US/09805507
;; Patent No. US20020098195A1
;; GENERAL INFORMATION:
;; APPLICANT: COOLIDGE, THOMAS R.
;; APPLICANT: EHLERS, MARIO
;; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
;; FILE REFERENCE: 089187/0395
;; CURRENT APPLICATION NUMBER: US/09/805,507
;; CURRENT FILING DATE: 2001-03-14
;; PRIOR APPLICATION NUMBER: 09/859,804
;; PRIOR FILING DATE: 2001-05-18
;; NUMBER OF SEQ ID NOS: 13
;; SOFTWARE: PatentIn Ver. 2.1
;; SEQ ID NO: 4
;; LENGTH: 30
;; TYPE: PRT
;; ORGANISM: Unknown Organism
;; FEATURE:
;; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
;; OTHER INFORMATION: Peptide
US-09-805-507-4

Query Match 92.4%; Score 134; DB 10; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
DB 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 9
US-09-859-804-4
;; Sequence 4, Application US/09859804
;; Patent No. US20020107206A1
;; GENERAL INFORMATION:
;; APPLICANT: COOLIDGE, THOMAS R.
;; APPLICANT: EHLERS, MARIO
;; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
;; FILE REFERENCE: 089187/0395
;; CURRENT APPLICATION NUMBER: US/09/859,804
;; CURRENT FILING DATE: 2001-05-18
;; PRIOR APPLICATION NUMBER: 09/295,439
;; PRIOR FILING DATE: 2000-05-19
;; NUMBER OF SEQ ID NOS: 13
;; SOFTWARE: PatentIn Ver. 2.1
;; SEQ ID NO: 4
;; LENGTH: 30
;; TYPE: PRT
;; ORGANISM: Unknown Organism
;; FEATURE:
;; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
;; OTHER INFORMATION: Peptide
US-09-859-804-4

Query Match 92.4%; Score 134; DB 10; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 29
DB 2 AECTFTSDVSSYLEGQAKKEFIAMLVKGR 30

RESULT 10
US-09-982-978-4
;; Sequence 4, Application US/09982978
;; Patent No. US20020146405A1
;; GENERAL INFORMATION:
;; APPLICANT: COOLIDGE, THOMAS R.
;; APPLICANT: EHLERS, MARIO
;; TITLE OF INVENTION: TREATMENT OF ACUTE CORONARY SYNDROME WITH GLP-1
;; FILE REFERENCE: 089187/0395
;; CURRENT APPLICATION NUMBER: US/09/982,978
;; CURRENT FILING DATE: 2001-10-22
;; PRIOR APPLICATION NUMBER: 09/859,804
;; PRIOR FILING DATE: 2001-05-18
;; PRIOR APPLICATION NUMBER: 09/295,439
;; PRIOR FILING DATE: 2000-05-19
;; NUMBER OF SEQ ID NOS: 13
;; SOFTWARE: PatentIn Ver. 2.1
;; SEQ ID NO: 4
;; LENGTH: 30
;; TYPE: PRT
;; ORGANISM: Unknown Organism
;; FEATURE:
;; OTHER INFORMATION: Description of Unknown Organism: Mammalian GLP
;; OTHER INFORMATION: Peptide
US-09-982-978-4

Query Match 92.4%; Score 134; DB 10; Length 30;
Best Local Similarity 93.1%; Pred. No. 1,4e-13;
Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29
 |||||
 DB 2 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 30

RESULT 11
 US-09-953-021H-4
 ? Sequence 4, Application US/09953021H
 ? Patent No. US2002014/131A1
 ? GENERAL INFORMATION:
 ? APPLICANT: Coolidge, Thomas L.
 ? APPLICANT: Chiles, Mario R.W.
 ? TITLE OF INVENTION: Metabolic Intervention with GLP-1 to Improve the Function of Isch
 ? TITLE OF INVENTION: Repetitive Skeletal Muscle Tissue
 ? FILE REFERENCE: P03660056
 ? CURRENT APPLICATION NUMBER: US/09/953,021B
 ? CURRENT FILING DATE: 2001 09 11
 ? PRIOR APPLICATION NUMBER: 09/302,596
 ? PRIOR FILING DATE: 1999-04-30
 ? NUMBER OF SEQ ID NOS: 13
 ? SOFTWARE: Patent In Ver. 2.0
 ? SEQ ID NO 4
 ? LENGTH: 30
 ? TYPE: PRT
 ? ORGANISM: Homo sapiens
 US-09-953-021H-4

Query Match 92.4%; Score 134; DB 10; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.4e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29
 |||||
 DB 2 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 30

RESULT 12
 US-10-072-540A-3
 ? Sequence 4, Application US/10072540A
 ? Patent No. US20020123466A1
 ? GENERAL INFORMATION:
 ? APPLICANT: Hoffmann, James
 ? TITLE OF INVENTION: GLP-1 FORMULATIONS
 ? FILE REFERENCE: X-11368A
 ? CURRENT APPLICATION NUMBER: US/10/072,540A
 ? CURRENT FILING DATE: 2002-02-08
 ? PRIOR APPLICATION NUMBER: US 60/067,600
 ? PRIOR FILING DATE: 1997-12-05
 ? NUMBER OF SEQ ID NOS: 5
 ? SOFTWARE: Patent In version 3.1
 ? SEQ ID NO 3
 ? LENGTH: 40
 ? TYPE: PRT
 ? ORGANISM: Artificial Sequence
 ? FEATURE:
 ? OTHER INFORMATION: synthetic construct
 ? FEATURE:
 ? NAME/KEY: MISC_FEATURE
 ? LOCATION: (19)..(19)
 ? OTHER INFORMATION: Xaa at position 19 is Iys or Arg;
 ? FEATURE:
 ? NAME/KEY: MISC_FEATURE
 ? LOCATION: (27)..(27)
 ? OTHER INFORMATION: Lys at position 27 may be acylated;
 ? FEATURE:
 ? NAME/KEY: MISC_FEATURE
 ? LOCATION: (30)..(30)
 ? OTHER INFORMATION: Xaa at position 30 is Gly or absent.
 US-10-072-540A-3

Query Match 92.4%; Score 134; DB 12; Length 30;
 Best Local Similarity 96.6%; Pred. No. 1.4e-13;
 Matches 28; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29
 |||||
 DB 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29

RESULT 13
 US-10-072-540A-4
 ? Sequence 4, Application US/10072540A
 ? Patent No. US20020123466A1
 ? GENERAL INFORMATION:
 ? APPLICANT: Hoffmann, James
 ? TITLE OF INVENTION: GLP-1 FORMULATIONS
 ? FILE REFERENCE: X-11368A
 ? CURRENT APPLICATION NUMBER: US/10/072,540A
 ? CURRENT FILING DATE: 2002-02-08
 ? PRIOR APPLICATION NUMBER: US 60/067,600
 ? PRIOR FILING DATE: 1997-12-05
 ? NUMBER OF SEQ ID NOS: 5
 ? SOFTWARE: Patent In version 3.1
 ? SEQ ID NO 4
 ? LENGTH: 30
 ? TYPE: PRT
 ? ORGANISM: Homo sapiens
 ? FEATURE:
 ? NAME/KEY: MOD_RPS
 ? LOCATION: (30)..(30)
 ? OTHER INFORMATION: AMIDATION
 US-10-072-540A-4

Query Match 92.4%; Score 134; DB 12; Length 30;
 Best Local Similarity 93.1%; Pred. No. 1.4e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29
 |||||
 DB 2 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 30

RESULT 14
 US-09-834-229A-1
 ? Sequence 1, Application US/09834229A
 ? Publication No. US20030022823A1
 ? GENERAL INFORMATION:
 ? APPLICANT: Eleudic, Sued
 ? TITLE OF INVENTION: USE OF GLP-1 OR ANALOGS IN TREATMENT OF MYOCARDIAL INFARCTION
 ? FILE REFERENCE: X 10822A
 ? CURRENT APPLICATION NUMBER: US/09/834,229A
 ? CURRENT FILING DATE: 2001-04-12
 ? PRIOR APPLICATION NUMBER: US 08/915,918
 ? PRIOR FILING DATE: 1997-08-21
 ? PRIOR APPLICATION NUMBER: US 06/024,980
 ? PRIOR FILING DATE: 1996-08-30
 ? NUMBER OF SEQ ID NOS: 6
 ? SOFTWARE: Patent In version 3.1
 ? SEQ ID NO 1
 ? LENGTH: 31
 ? TYPE: PRT
 ? ORGANISM: Homo sapiens
 US-09-834-229A-1

Query Match 92.4%; Score 134; DB 9; Length 31;
 Best Local Similarity 93.1%; Pred. No. 1.5e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 29
 |||||
 DB 2 AEGFTSDVSSYLEGQAAKEFIAMLEVKGR 30

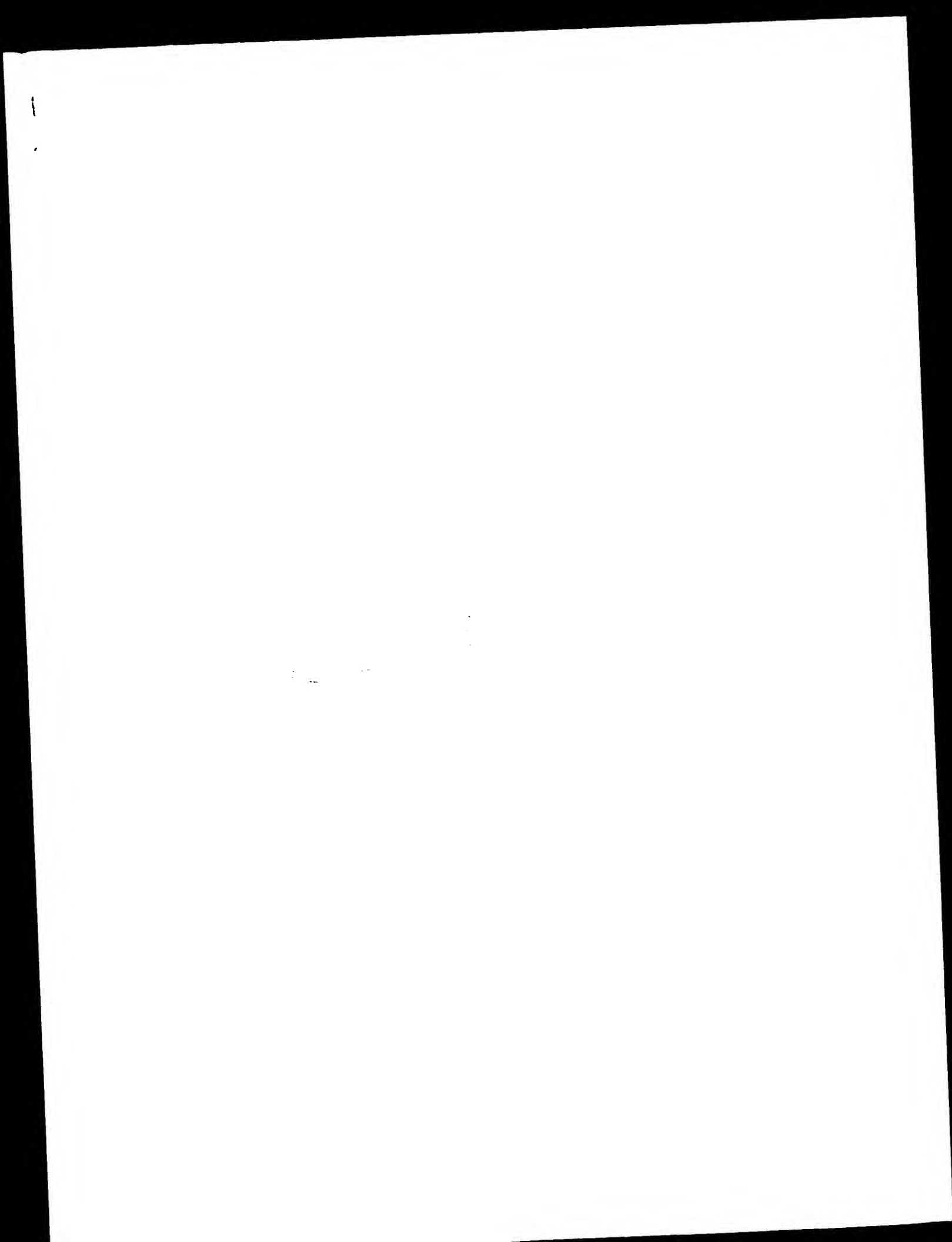
RESULT 15
 US-09-997-792-1
 ? Sequence 1, Application US/09997792

Publication No. US20030045464A1
GENERAL INFORMATION:
APPLICANT: Hermeling, Ronald
APPLICANT: Hoffmann, James
APPLICANT: Narasimhan, Chakravarthy
TITLE OF INVENTION: GLOUCAGON-LIKE PEPTIDE-1 CRYSTALS
FILE REFERENCE: X-10242
CURRENT APPLICATION NUMBER: US/09/997,792
CURRENT FILING DATE: 2001-11-30
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PatentIn version 3.0
SEQ ID NO: 1
LENGTH: 31
TYPE: PRT
ORGANISM: Homo sapiens
US-09-997-792-1

Query Match 92.48; Score 134; DB 9; length 31;
Best local Similarity 93.18; Pred. No. 1.5e-13;
Matches 27, Conservative 0, Mismatches 2, Indels 0, Gaps 0,

QY 1 AEGFTSDVSSYLEGVAAXEFTAWMEVKGR 29
|||||
DB 2 AEGFTSDVSSYLEGVAAXEFTAWMEVKGR 30

Search completed: May 13, 2003, 09:36:47
Job time: 16.2542 secs



F:126-158/Product: glucagon-like peptide 2 #status experimental <GL>
F:107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following q1

Query Match 92.4% Score 134: DB 1: Length 158;
Best Local Similarity 91.1% Pred. No. 80-137
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
|||||
DB 79 AEGFTSDVSSYLEGQAAKEFIAWVKGR 107

RESULT 2

glucagon precursor [validated] : human

N:Contains: glycine; glycine-related polypeptide (GPP): glucagon; glucagon-like peptide

C:Species: Homo sapiens (man)

C:Date: 24-Apr-1984 #sequence-revision 31-Mar-1993 #text-change 08-Dec-2000

C:Accession: A24177; A44197; A50875; A32614; A01541; S23309

R:Miller, J.M.; Sanders, G.F.

Nucleic Acids Res. 14, 4719-4730, 1986

A:Title: Structure of the human glucagon gene.

A:Reference number: A24177; M01D:86259053; PMID:3725587

A:Accession: A24177

A:Molecule type: DNA

A:Residues: 1-180 <WH>

A:Cross-references: GR:X03991

R:Miller, G.L.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, R.C.

Nature 304, 468-471, 1983

A:Title: Exon duplication and divergence in the human preproglucagon gene.

A:Reference number: A44197; M01D:83271477; PMID:6877458

A:Accession: A44197

A:Molecule type: DNA

A:Residues: 1-179 <HE>

A:Cross-references: GR:V01515; NID:q31777; PION:CAA24759.1; PID:q31778

R:Drucker, D.J.; Asd, S.

J. Biol. Chem. 263, 13475-13478, 1988

A:Title: Glucagon gene expression in vertebrate brain.

A:Reference number: A10875; M01D:88330850; PMID:2901414

A:Accession: A10875

A:Molecule type: mRNA

A:Residues: 1-180 <IR>

A:Cross-references: GB:J04040; NID:q183269; PION:AA52567.1; PID:q183270

R:Joukov, C.; Bergant, M.; Johnson, A.H.; Hojrup, P.; Holst, J.J.

J. Biol. Chem. 264, 12826-12829, 1989

A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine

A:Reference number: A92732; M01D:89327238; PMID:2754890

A:Accession: A12614

A:Molecule type: protein

A:Residues: 98-127 <ORS>

R:Thomson, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.

FEBS Lett. 21, 315-319, 1972

A:Title: The amino acid sequence of human glucagon.

A:Reference number: A91373

A:Accession: A01541

A:Molecule type: protein

A:Residues: 53-81 <TH>

R:Tsujita, A.; Takemoto, K.; Kano, M.; Iwamoto, H.

Eur. J. Biochem. 206, 691-696, 1992

A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and analysis

A:Reference number: S23188; M01D:92298996; PMID:1606466

A:Accession: S23109

A:Molecule type: protein

A:Residues: 53-81 <TS>

C:Comment: In pancreatic alpha cells, proglucagon is processed to truncated glucagon-like peptide 1, glucagon

in duodenum.

C:Keywords: GPCR; GPCR

A:Cross-references: GPCR:119265; OMIM:138040

A:Map position: 2936-2947

A:Indels: 31/2: 85/2: 131/2: 179/2

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; 1

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status experimental <PGC>

F:21-50/Product: glycine #status experimental <GN>

F:53-89/Product: oxynomodulin #status predicted <ORPN>

F:53-81/Product: glucagon #status experimental <GN>

F:92-178/Product: major proglucagon fragment #status experimental <MPGF>

F:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:146-178/Product: truncated glucagon-like peptide 2 #status experimental <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134: DB 1: Length 180;
Best Local Similarity 91.1% Pred. No. 9-20-13;
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
|||||
DB 99 AEGFTSDVSSYLEGQAAKEFIAWVKGR 127

RESULT 3

glucagon precursor - guinea pig

N:Alternate names: oxynomodulin

N:Contains: glycine; glycine-related peptide; glucagon; glucagon-37 (oxynomodulin); glucagon

C:Species: Cavia porcellus (guinea pig)

C:Date: 30-Sep-1987 #sequence-revision 31-Dec-1992 #text-change 16-Jun-2000

C:Accession: A24856; A23849; A60323

R:Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.

FEBS Lett. 203, 25-30, 1986

A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific

A:Reference number: A24856; M01D:86248118; PMID:3755107

A:Accession: A24856

A:Molecule type: mRNA

A:Residues: 1-180 <SEI>

A:Cross-references: DB:J04040; GR:N00014; NID:q220288; PION:AA50010.1; PID:q220288

R:Huang, C.G.; Peng, J.; Pan, Y.C.E.; Holmes, J.D.; Yalow, R.S.

Diabetes 35, 508-512, 1986

A:Title: Guinea pig glucagon differs from other mammalian glucagons.

A:Reference number: A23849; M01D:86165412; PMID:3956884

A:Accession: A23849

A:Molecule type: protein

A:Residues: 53-81 <HUA>

R:Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.

Regul. Pept. 11, 309-320, 1985

A:Title: Primary structure of glucagon and a partial sequence of oxynomodulin (gluc

A:Reference number: A60323; M01D:86017849; PMID:4048553

A:Accession: A60323

A:Molecule type: protein

A:Residues: 53-81 <CON>

A:Note: glucagon-37 was not completely sequenced

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pa

F:1-20/Domain: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <PGC>

F:53-89/Product: glucagon-37 (oxynomodulin) #status predicted

F:53-81/Product: glucagon #status experimental <GN>

F:98-127/Product: glucagon-like peptide 1 #status experimental <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134: DB 1: Length 180;
Best Local Similarity 93.1% Pred. No. 9-20-13;
Matches 27: Conservative 0: Mismatches 2: Indels 0: Gaps 0:

QY 1 AEGFTSDVSSYLEGQAAKEFIAWVKGR 29
|||||
DB 99 AEGFTSDVSSYLEGQAAKEFIAWVKGR 127

RESULT 4

GCRDY glucagon precursor - dequ

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Octodon degus (degu)

C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999

C:Accession: C36118

R:Nishi, M.; Steiner, D.F.

Mol. Endocrinol. 4, 1192-1196, 1990

A:Title: Cloning of complementary DNAs encoding islet amyloid polypeptide, insulin, and

A:Reference number: A36118, PMID:9115552, PMID:2293024

A:Accession: C36118

A:Molecule type: mRNA

A:Residues: 1-180 <NHS>

A:Cross-references: GIK M7686; NID:920467; P1EN AAA0554; E1E 9203468

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/DNA: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:51-50/Region: glucagon-like peptide #status predicted

F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 92.4% Score 134; DR 1; Length 180;

Best Local Similarity 93.1% Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

DB 1 AACTFTSDVSSYLEGQAAKEFIAMWKCR 29

DB 99 AECTFTSDVSSYLEGQAAKEFIAMWKCR 127

RESULT 5

GCR1 glucagon precursor - rat

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Rattus norvegicus (Norway rat)

C:Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 26-Feb-1999

C:Accession: A22655; A25190; A44198

R:Heinrich, G.; Gros, P.; Habener, J.F.

J. Biol. Chem. 262, 14082-14087, 1987

A:Title: Glucagon gene sequence: four of six exons encode separate functional domains of

A:Reference number: A22655, M716 8505453; PMID:3094439

A:Accession: A22655

A:Molecule type: DNA

A:Residues: 1-180 <NHS>

A:Cross-references: EMBL:K02809

A:Note: the authors translated the cDNA TTT for residue 10 as Gln and AAT for residue 9

R:Mojsos, S.; Heinrich, G.; Wilson, I.R.; Fava2040; M. Groll, I.; Habener, J.F.

J. Biol. Chem. 261, 11880-11889, 1986

A:Title: Proglucagon gene expression in pancreas and intestine diversifies at the level

A:Reference number: A25190; M01D:8630424; PMID:3528148

A:Accession: A25190

A:Molecule type: mRNA

A:Status: not compared with conceptual translation

A:Residues: 1-180 <MOD>

R:Heinrich, G.; Gros, P.; Land, P.K.; Bantley, R.C.; Habener, J.F.

Endocrinology 115, 2176-2181, 1984

A:Title: Preproglucagon messenger ribonucleic acid: nucleotide and encoded amino acid s

A:Reference number: A44198; M01D:85051023; PMID:6548696

A:Accession: A44198

A:Molecule type: mRNA

A:Status: preliminary

A:Residues: 1-180 <HF2>

A:Cross-references: GB:K02809; GB:K02810; GB:K02811; GB:K02812

C:Accession: K02809; K02810; K02811; K02812

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/DNA: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:53-81/Region: glycine-related peptide #status predicted

F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following

Query Match 92.4% Score 134; DR 1; Length 180;

Best Local Similarity 93.1% Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

DB 1 AACTFTSDVSSYLEGQAAKEFIAMWKCR 29

DB 99 AECTFTSDVSSYLEGQAAKEFIAMWKCR 127

RESULT 6

GCHV glucagon precursor - golden hamster

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Mesocricetus auratus (golden hamster)

C:Date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #text_change 20-Mar-1998

C:Accession: A01539

R:Bell, G.; Saito, R.F.; Mulhbach, G.F.

Nature 302, 716-718, 1983

A:Title: Hamster proglucagon contains the sequence of glucagon and two related p

A:Reference number: A01539; M01D:8167563; PMID:683407

A:Accession: A01539

A:Molecule type: mRNA

A:Residues: 1-180 <NHS>

A:Cross-references: EMBL:J00059

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre

F:1-20/DNA: signal sequence #status predicted <SIG>

F:21-180/Product: proglucagon #status predicted <SIG>

F:51-50/Region: glucagon-like peptide #status predicted

F:98-81/Product: glucagon-like peptide 1 #status predicted <GL1>

F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>

F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 92.4% Score 134; DR 1; Length 180;

Best Local Similarity 93.1% Pred. No. 9, 2e-13;

Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

DB 1 AECTFTSDVSSYLEGQAAKEFIAMWKCR 29

DB 99 AECTFTSDVSSYLEGQAAKEFIAMWKCR 127

RESULT 7

GCBQ glucagon precursor - bovine

N-terminus: glycine-related peptide; glucagon-like peptide 1; glucagon-like peptide 2

C:Species: Bos primigenius taurus (cattle)

C:Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 20-Mar-1998

C:Accession: A93970; A92081; A01538

R:Lopez, L.C.; Frazer, M.L.; Su, G.J.; Kumar, A.; Saunders, G.F.

Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983

A:Title: Mammalian pancreatic proglucagon contains three glucagon-related peptide

A:Reference number: A93970; M01D:8329996; PMID:6577439

A:Accession: A93970

A:Molecule type: mRNA

A:Residues: 1-180 <LDP>

A:Cross-references: EMBL:K01017

R:Brumer, W.W.; Houchard, M.E.; Koffenberger Jr., J.E.

J. Biol. Chem. 266, 2822-2827, 1991

A:Title: Amino acid sequence of bovine glucagon.

A:Reference number: A92081; M01D:7116445; PMID:5192927

A:Accession: A92081

A:Molecule type: protein

A:Residues: 52-81 <850>

C:Superfamily: glucagon

C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancre
 F:1 20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: qlvent in related peptide #status predicted
 F:53-81/Product: glucagon #status experimental <GCN>
 F:98-127/Product: proglucagon #status predicted <PGC>
 F:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 92.4% Score 134; DB 1; Length 180;
 Best Local Similarity 93.1%; Pred. No. 9, 2e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 29
 |||||
 Db 99 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 127

RESULT 8

As7294
 glucagon precursor mouse
 C:Species: Mus musculus (house mouse)
 C>Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #exl_change 16-Jul-1999
 C:Accession: A57294; S49903
 R:Kobayashi, M.E.; Elbertson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.;
 J. Biol. Chem. 270, 10136-10146, 1995
 A>Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immu
 A:Reference number: A57294; MUID:95247722; PMID:7730417
 A:Accession: A57294
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-180 <POL>
 A:Cross-references: EMBL:Z46845; NID:9599880; PUDN:CAAB6902.1; PTD:9599881
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 92.4% Score 134; DB 2; Length 180;
 Best Local Similarity 93.1%; Pred. No. 9, 2e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 29
 |||||
 Db 99 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 127

RESULT 9

gcfu
 glucagon precursor - chicken
 N:Contains: glucagon; glucagon-like peptide 1
 C:Species: gallus gallus (chicken)
 C>Date: 31-Dec-1991 #sequence_revision 31-Mar-1993 #exl_change 18-Jun-1999
 R:Blasegwa, S.; Terazono, K.; Noda, K.; Takada, T.; Yamamoto, H.; Okamoto, H.
 FEBS Lett. 264, 117-120, 1990
 A>Title: Nucleotide sequence determination of chicken glucagon precursor cDNA. Chicken
 A:Reference number: S09992; MUID:95249492; PMID:2338135
 A:Accession: S09992
 A:Molecule type: mRNA
 A:Residues: 1-151 <IMS>
 A:Cross-references: EMBL:Y07539; NID:963749; PUDN:CAAB8827.1; PTD:963750
 R:Pollock, H.G.; Kimmel, J.R.
 J. Biol. Chem. 250, 9377-9380, 1975
 A>Title: Chicken glucagon. Isolation and amino acid sequence studies.
 A:Reference number: A92189; MUID:76069271; PMID:1194290
 A:Accession: A92189
 A:Molecule type: protein
 A:Residues: 55-83 <POL>
 R:Huang, J.; Eng, J.; Yalow, R.S.
 Horm. Metab. Res. 19, 542-544, 1987
 A>Title: Chicken glucagon: sequence and potency in receptor assay.
 A:Reference number: A6084b; MUID:96114418; PMID:2828209
 A:Accession: A6084b
 A:Molecule type: protein

A:Residues: 55-83 <HUA>
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; po
 F:1 22/Domain: signal sequence #status predicted <SIG>
 F:23-151/Product: proglucagon #status predicted <PGC>
 F:55-83/Product: glucagon #status experimental <GCN>
 F:118-147/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:147/Modified site: amidated carboxyl end (Arg) (amide in mature form from followi

Query Match 84.1% Score 122; DB 1; Length 151;
 Best Local Similarity 79.3%; Pred. No. 5e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 29
 |||||
 Db 119 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 147

RESULT 10

151301
 proglucagon - chicken
 C:Species: gallus gallus (chicken)
 C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #exl_change 16-Jul-1999
 C:Accession: 151301
 R:Irwin, D.M.; Wong, J.
 Mol. Endocrinol. 9, 267-277, 1995
 A>Title: Trout and chicken proglucagon: alternative splicing generates mRNA transcri
 A:Reference number: A60895; MUID:95297539; PMID:7776946
 A:Accession: 151301
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-206 <HWA>
 A:Cross-references: GB:S78477; NID:9993486; PUDN:AA84506.1; PTD:9993487
 C:Superfamily: glucagon
 C:Keywords: duplication

Query Match 84.1% Score 122; DB 2; Length 206;
 Best Local Similarity 79.3%; Pred. No. 7e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

UY 1 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 29
 |||||
 Db 119 AEGFTSDVSSYLEGQAAKEFIAWEYKGR 147

RESULT 11

gcfu
 glucagon precursor - bullfrog (fragments)
 N:Alternate names: oxyntomodulin
 N:Contains: glucagon; oxyntomodulin; glucagon-like peptide 1; glucagon
 C:Species: Rana catesbeiana (bullfrog)
 C>Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #exl_change 20-Mar-1998
 C:Accession: B48091; C28091; D28091
 R:Pollock, H.G.; Hamilton, J.W.; Kousc, J.H.; Ebner, K.F.; Kawitch, A.H.
 J. Biol. Chem. 263, 9745-9751, 1988
 A>Title: Isolation of peptide hormones from the pancreas of the bullfrog (Rana cates
 A:Reference number: A42770; MUID:88257102; PMID:3260236
 A:Accession: R28091
 A:Molecule type: protein
 A:Residues: 1-36 <POL>
 A:Accession: C28091
 A:Molecule type: protein
 A:Residues: 37-68 <POL>
 A:Accession: D28091
 A:Molecule type: protein
 A:Residues: 69-101 <POL>
 C:Superfamily: glucagon
 C:Keywords: carbohydrate metabolism; duplication; hormone; pancreas
 F:1-36/Product: glucagon-36 (oxyntomodulin) #status experimental <G36>
 F:1-29/Product: glucagon #status predicted <GCN>
 F:37-67/Product: glucagon-like peptide 1 #status experimental <GL1>
 F:69-101/Product: glucagon-like peptide 2 #status experimental <GL2>

Query Match 74.58; Score 108; EB 1; Length 101;
Best Local Similarity -69.0%; Pred No 4 3e-09;
Matches 20; Conservative 5; Mismatches 4; Indels 0; Gaps 0;

```

QY      1  AHCFTTSDVSSYLHGOAAKFFIAWEVKGR  29
          1:|||||:||||:||||:||||:||||
Db      38  ADGFTSDMSSYLEEKAKEFVDWLKGR  66

```

RESULTS 13
B61125

glucagon-like peptide - American eel
 Species: *Anguilla rostrata* (American eel)
 Date: 10-Mar-1994 #sequence_revision 10-Mar-1994
 CAccession: B61125
 R:Conlon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.
 J. Endocrinol. 82: 23-32, 1993

A:Title: The primary structure of glucagon-like peptide but not insulin has been conserved in the vertebrate lineage
A:Reference number: A61125
A:Accession: M0109140668, PMID: 18741485

C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; duplication
 E:1.30/Product: glucagon-like peptide #status experimental - (GIP)
 E:30/Modified site: amidated carboxyl end (Arg) #status predicted

Query Match	72.48	Score 105	DB 2	Length 30
Best Local Similarity	69.08	Prod. No. 3.4e-09		
Matches	20	Conservative	4	Mismatches 5
				Indels 0
				Gaps 0

QY 1 AEGFTSDVSSYLEGQAAKEFIAMVEVGR 29
|||:||||: |||:|
Db 2 AHGTYSIDVSSYLQDQAAKEFVSWLKIGR 30

RESULT 13
C61125

glucagon-like peptide - European ee
 C:Species: Anguilla anguilla (European eel)
 C:Date: 10 Mar 1994 #sequence_revision 10 Mar 1994 #text_change 21-Nov-1997
 C:Accession: C61125
 C:Condon, J.M.; Andrews, P.C.; Thim, L.; Moon, T.W.

Gen. Comp. Enzymol. 182: 24-47, 1991.
A Title: The primary structure of glucagon-like peptide but not insulin has been conservatively altered in the evolution of the vertebrate insulin superfamily.
A Reference Number: A61125, MOLIM, 913406d, PMID:1874385.
A Accession: C61125

A: Molecule type: protein
A, Pssid: 05 1:30 477N,
C: Superfamily: glucagon
Keywords: amidated carboxyl end; duplication

F,1,39/Product_gluagono-like_peptide #status experimental -GIP,
F,30/Modified site, amidated carboxyl end (Arg) #status experimental

Query Match	72.48;	Score 105;	DB 2;	Length 30;
Best Local Similarity	69.08;	Pred No	3 4e-09;	
Matches	20;	Conservative	4;	Mismatches 5;
				Indels 0;
				Gaps 0

Qy 1 AHGTTSDVSSSYLPGQAAKEFIAMEVKGK 29
 |||||: |||:
 Db 2 AEGTYSDEVSSYLQDQAAKEFVSWLKTGR 30

RESULT 14
GCA#2

glucagon 2 precursor - American gooselike
M. Contains: glucagon, glucagon like peptide 1
C:Species: Lophius americanus (American gooselike)
C:Date: 31-Mar-1993 *sequence_revision 31-Mar-1993
C:Accession: A05150
R:Find: P.K. Goodman, R.H. Mottinby, M.R. Dee, P.C. Habener, J.F.
J. Biol. Chem. 258, 3280-3284, 1983
Title: Angiotensin-like pre-proglucagon II Nucleotide and corresponding amino acid se

A: Reference number: A05150, MUIE.83135785, PMID.6338015
A: Accession: A05150

A;Molecule type: mRNA
A;Residues: 1-122 (100%)

A; Cross references: CH-300033, NID-364023, P11N-CA23905.1; P11N-364022
C; Superfamily: glucagon
C; Key words: carbohydrate metabolism; duplication; hormone; pancreas

F1-21/Domain: signal sequence #status predicted: S19
F1-22/12/Product: proglucagon 2 #status predicted: P022
F1-22.80/Product: glucagon #status predicted: SC0N
F1-28.119/Product: glucagon-like peptide 1 #status predicted: S19

Query Match	99	Score	99	DB	1	Length	122
Best Local Similarity	52.1%	Freqd.	No.	1.3e-07			
Matches	18	Conservative	6	Mismatches	5	Indels	0
						Gaps	0

```
CY      1 AECTFTSVSSSYLFCGAAKFEFIAMEVKCR   29
          |||::|||::|::|::|::|::|::|::|::|
DB      60 AFGYTSEVSSYLQDQAARKDFVSWLKAGR   118
```

RESULT 15
151093

glutagon - chinook salmon (treatment)
 Cspecies: Oncorhynchus tshawytscha (chinook salmon)
 #Date: 18-Sep-1998 #sequence_revision 18-Sep-1998 #text_change 16-Jul-1999

Mol. Endocrinol. 9, 267-277, 1995

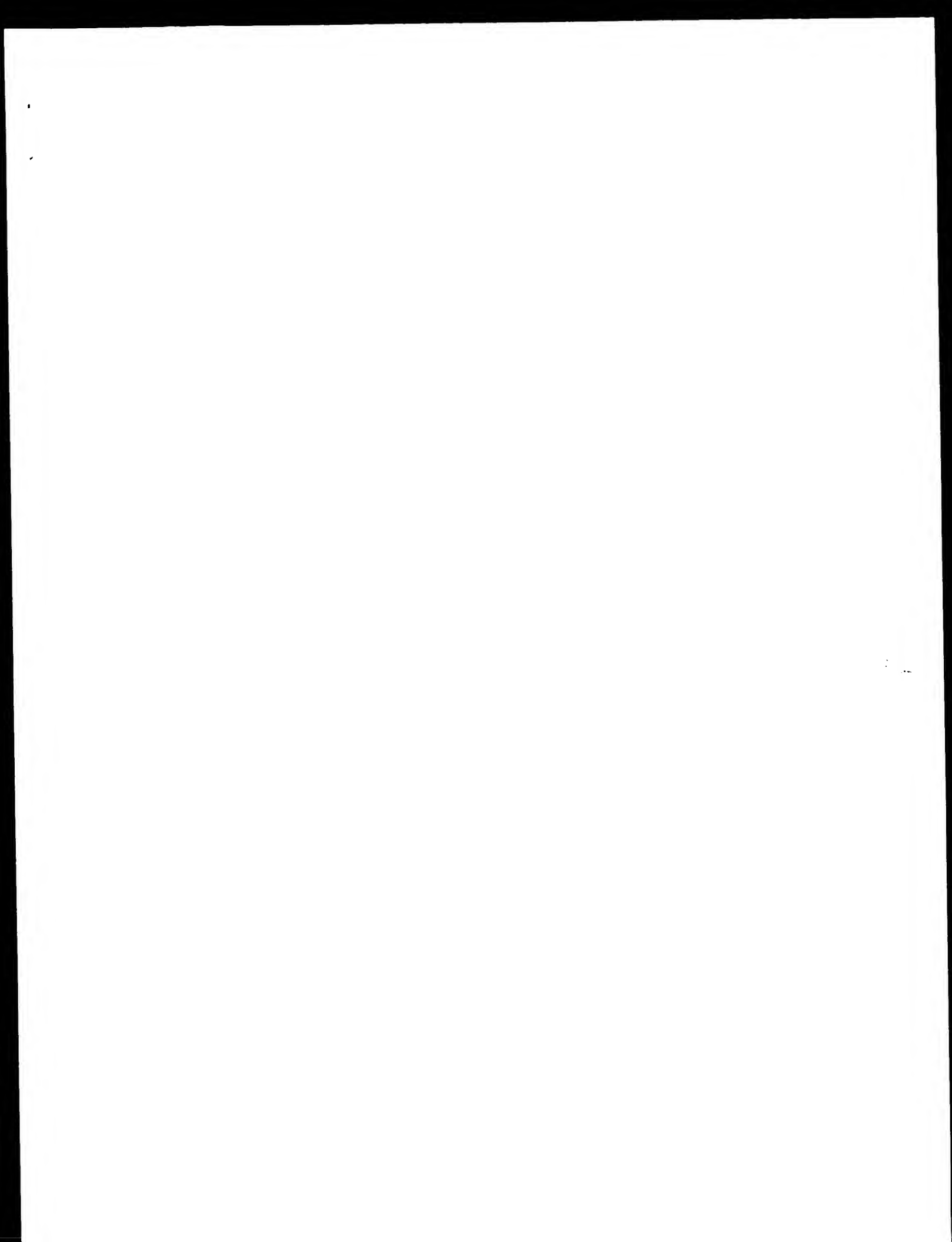
A;Accession: I51093
A;Status: preliminary; translated from GB/E:MBL/TIDBJ
A;Molecule type: mRNA

A:Residues:1-66 <1kw>
A:Cross-references: EMBL:U19920; NID:q736366; PIR:AA059670.1; PID:q736367
C:Superfamily: glucagon
C:Keywords: duplication

Query Match	80.98;	Score 97;	DB 2;	Length 66;
Best Local Similarity	56.68;	Pred. No. 1.3e-07;		
Matches 17:	Conservative 5;	Mismatches 5;	Indels 0;	Gaps 0;

1 AEGFTSDVSSYLEGQAAKEFTLWEVKGR 29

Search completed: May 13, 2003, 09:28:33
Job time : 26.9492 secs



GenCore version 5.1.4.P5_4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:50:12 ; Search time 15.2542 seconds
(without alignments)
81.570 Million cell updates/sec

Title: US-09-868-974-3
Perfect score: 145
Sequence: 1 AEGFTSDVSSYLEQVAXXEFIAWEVKGKPK 30

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues
Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0
Maximum DB seq length: 200000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_40.*
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	134	92.4	158	1	GLUC_PIG
2	134	92.4	180	1	GLUC_BOVIN
3	134	92.4	180	1	GLUC_PANPA
4	134	92.4	180	1	GLUC_HUMAN
5	134	92.4	180	1	GLUC_MUSAU
6	134	92.4	180	1	GLUC_MOUSE
7	134	92.4	180	1	GLUC_OCTDE
8	134	92.4	180	1	GLUC_RAT
9	122	84.1	151	1	GLUC_CHICK
10	108	74.5	103	1	GLUC_PANPA
11	105	72.4	30	1	GLUC_ANGAN
12	99	68.3	122	1	GLUC_OYPM
13	96	66.2	33	1	GLUC_OYPM
14	95	65.5	71	1	GLUC_OYPM
15	95	65.5	78	1	GLUC_LEPSP
16	93	64.1	71	1	GLUC_PANPA
17	93	64.1	121	1	GLUC_PANPA
18	92	63.4	68	1	GLUC_OYPM
19	82	56.6	96	1	GLUC_MUSC
20	79	54.5	124	1	GLUC_OYPM
21	78	53.8	29	1	GLUC_OYPM
22	76	52.4	29	1	GLUC_OYPM
23	75	51.7	29	1	GLUC_OYPM
24	75	51.7	29	1	GLUC_OYPM
25	75	51.7	29	1	GLUC_OYPM
26	74	51.0	29	1	GLUC_OYPM
27	73	50.3	29	1	GLUC_OYPM
28	73	50.3	36	1	GLUC_OYPM
29	72	49.7	29	1	GLUC_OYPM
30	72	49.7	29	1	GLUC_OYPM
31	71	49.0	29	1	GLUC_OYPM
32	69	47.6	87	1	EXEC_HUMAN
33	68	46.9	75	1	GLUC_AMICA

ALIGNMENTS

RESULT 1	ID	GLUC_PIG	STANDARD	PRT	158 AA
AC	P01274	GLUC_PIG			
DT	21-JUL-1986 (Rel. 01, Created)				
DT	01-NOV-1990 (Rel. 16, Last sequence update)				
DT	16-OCT-2001 (Rel. 40, Last annotation update)				
DE	Glucagon precursor [Canalis, Glucagon, Glucagon-related polypeptide (GRP): glucagon, glucagon-like peptide-1 (GLP1): glucagon-like peptide 2 (GLP2)] (Fragment).				
DE	CGC.				
OS	Sus scrofa (Pig).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.				
NCBI	TaxID=9823;				
RP	SEQUENCE OF 1-69.				
RP	MEDLINE=81248172; PubMed=6894800;				
RA	Thum L., Moody A.T.;				
RT	"The primary structure of porcine glucagon (proglucagon)."				
RL	Regul. Pept. 2:139-150(1981).				
RN	[2]				
RP	SEQUENCE OF 1-69.				
RP	MEDLINE=82231776; PubMed=7045833;				
RA	Thum L., Moody A.T.;				
RT	"The amino acid sequence of porcine glucagon."				
RL	Peptides 2 Suppl. 2:37-39(1981).				
RN	[3]				
RP	SEQUENCE OF 33-61.				
RA	Brewer W.W., Sim I.G., Behrens O.K.;				
RT	"The amino acid sequence of glucagon. V. Location of amide groups, acid degradation studies and summary of sequential evidence."				
RL	J. Am. Chem. Soc. 79:2807-2810(1957).				
RN	[4]				
RP	SEQUENCE OF 78-107.				
RP	MEDLINE=8932238; PubMed=2753890;				
RA	Oskov C., Bersani M., Tolonen A.H., Hoefrup P., Holst J.J.;				
RT	"Complete sequences of glucagon-like peptide-1 from human and pig small intestine."				
RL	J. Biol. Chem. 264:12826-12829(1989).				
RN	[5]				
RP	SEQUENCE OF 111-158.				
RA	MEDLINE=89433712; PubMed=337036;				
RA	Buhl T., Thum L., Kotz H., Oskov C., Hulting H., Holst J.J.;				
RT	"Naturally occurring products of proglucagon 111-160 in the porcine and human small intestine."				
RL	J. Biol. Chem. 263:8521-8524(1988).				
RN	[6]				
RP	X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS)				
RP	MEDLINE=76051297; PubMed=71582				
RA	Sasaki K., Dockett S., Adams P.A., Tickle I.J., Blundell T.L.;				
RT	"X-ray analysis of glucagon and its relationship to receptor binding."				
RL	Nature 257:751-757(1975).				
RI	FUNTIN, GUNZ, N. FROM THE HYDROLYSIS OF GLUCAGON AND LIPIDS, AND				
CC	RAISES THE BLOOD SUGAR LEVEL.				

P20394 heloderma h
P09682 hydrolygus
P09680 bos taurus
P01281 sus scrofa
P48756 mus musculus
P06145 ratius norv
P20846 physcomitre
P03481 homo sapien
P67422 aquifex aceo
P73079 mycoplasma
P40490 saccharomye
F45495 lactobacilli

CC 1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC 1- INDUCTION: PRODUCED IN THE A CELLS OF LANCERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC HUMAN SEQUENCE.
 CC 1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC PIR: A01540; CCGG.
 CC DR: IPIR000532; Glucagon.
 CC DR: PIR: A01538; GCGO.
 CC DR: SMART: SMO0070; GLUCA: 3.
 CC DR: PROSITE: PS00260; GLUCAGON: 3.
 CC KW: Glucagon family; Hormone; Cleavage on pair of basic residues;
 CC 40-structure.
 CC FT: NONTER 1 1
 CC FT: PEPTIDE 1 69 GLICENTIN.
 CC FT: PEPTIDE 1 61 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT: PEPTIDE 33 61 GLUCAGON.
 CC FT: PEPTIDE 78 107 GLUCAGON-LIKE PEPTIDE 1.
 CC FT: PEPTIDE 126 158 GLUCAGON-LIKE PEPTIDE 2.
 CC FT: HELIX 39 42
 CC FT: TURN 43 45
 CC FT: HELIX 46 55
 CC FT: TURN 56 57
 CC SU: SEQUENCE 158 AA; 18212 MW; 2806PCE57E333h2 CMC64;
 Query Match 92.4%; Score 134; DR 1; Length 158;
 Best Local Similarity 93.1%; Pred. No. 1.4e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 OY 1 ACCTFTSDVSSYLKGOAAKEFTAMVYKGR 29
 DB 79 ACCTFTSDVSSYLKGOAAKEFTAMVYKGR 107
 RESULT 2
 ID GLUC_HOVIN STANDARD; PRT; 180 AA.
 AC P01272;
 DT 21-AUG-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-JUN-2002 (Rel. 41, Last annotation update)
 DE Glucagon precursor (Contains: Glucocent-in-related polypeptide (GRP));
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)).
 GN GCG.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Kuminantia; Perora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=8429996; PubMed=6577439;
 RA Lopez L.C., Frazier M.L., Su C.J., Kumar A., Saunders G.F.;
 RT "Mammalian pancreatic preproglucagon contains three glucagon-related
 RT peptides";
 RL Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489(1983).
 RN [2]
 RP SEQUENCE OF 53-81.
 RX MEDLINE=71166445; PubMed=5102927;
 RA Brower W.W., Houchter M.E., Koffenberg J.E. Jr.;
 RT "Amino acid sequence of bovine glucagon";
 RL J. Biol. Chem. 246:2822-2827(1971).
 RN [3]
 RP STRUCTURE BY NMR OF 53-81.
 RX MEDLINE=71166445; PubMed=6631957;
 RA Braun W., Wilder G., Lee K.H., Wuthrich K.;
 RT "Conformation of glucagon in a lipid-water interphase by 1H nuclear
 RT magnetic resonance";
 RL J. Mol. Biol. 169:921-948(1983).

CC 1- FUNCTION: GLUCAGON PROMOTES HYPOGLYCEMIA OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC 1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC 1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANCERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC 1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC EMBL: K00107; AAA30538.1;
 CC PIR: A01538; GCGO.
 CC DR: IPIR000532; Glucagon.
 CC DR: PIR: A01538; GCGO.
 CC DR: SMART: SMO0070; GLUCA: 3.
 CC DR: PROSITE: PS00260; GLUCAGON: 4.
 CC KW: Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC 30-structure.
 CC FT: SIGNAL 1 20
 CC FT: PEPTIDE 21 50 GLICENTIN-RELATED POLYPEPTIDE.
 CC FT: PEPTIDE 53 81 GLUCAGON.
 CC FT: PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 CC FT: PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC SU: SEQUENCE 180 AA; 20944 MW; 8D9H4P059P15F CMC64;
 Query Match 92.4%; Score 134; DR 1; Length 180;
 Best Local Similarity 93.1%; Pred. No. 1.6e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 OY 1 ACCTFTSDVSSYLKGOAAKEFTAMVYKGR 29
 DB 99 ACCTFTSDVSSYLKGOAAKEFTAMVYKGR 127
 RESULT 3
 ID GLUC_CAVPU STANDARD; PRT; 180 AA.
 AC P05110;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor (Contains: Glucocent-in-related polypeptide (GRP));
 DE Glucagon; Glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
 DE Glucagon-like peptide 2 (GLP2)).
 GN GCG.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriognathu; Cavidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86248118; PubMed=3755107;
 RA Seldin S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
 RT "Mutations in the guinea pig preproglucagon gene are restricted to a
 RT specific portion of the prohormone sequence";
 RL PNAS Lett. 203:25-30(1986).
 RN [2]
 RP SEQUENCE OF 53-81.
 RX MEDLINE=86165412; PubMed=3956884;
 RA Huang C.G., Fong J., Pan Y.-C.F., Holmes J.D., Yajima R.S.;
 RT "Guinea pig glucagon differs from other mammalian glucagons";
 RL Diabetes 35:508-512(1986).
 RN [3]
 RP PARTIAL SEQUENCE OF 53-89.

RX MEDLINE=86017849; PubMed=4048553;
 RA Conlon J M, Hansen H F, Schwartz J W;
 RT "Primary structure of glucagon and a partial sequence of
 RI oxyntomodulin (glucagon-37) from the guinea pig."
 CC Regu. Pept. 11:309-320(1985)
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCAGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL
 CC -1- FUNCTION: GLUC STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE. CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PREPARED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----
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 CC -----
 CC EMBL: D00014; BAA00010 1:
 DR PIR: A24856; GCGP.
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR005332; Glucagon
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 3.
 DR PROSITE: PS00260; GLUCAGON: 4.
 DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL: 1 20
 FT PEPTIDE: 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE: 51 81 GLUCAGON.
 FT PEPTIDE: 82 89 GLUCAGON-37.
 FT PEPTIDE: 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE: 146 178 GLUCAGON-LIKE PEPTIDE 2.
 FT SEQUENCE: 180 AA; 20972 MW; 702481816102776 CRC64;
 SU
 Query Match 92.4%. Score 134; DB 1; Length 180.
 Best Local Similarity 93.1%; Pred. No. 1,6e-13.
 Matches 27, Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 OY 1 AHCFTSNVSYLSCGAAKPIAMVYKCR 29
 DB 99 AESTFTSDVSYLSEGGAAKEFIAMVYKGR 127
 RESULT 4
 GLUC_HUMAN STANFORD: PRT: 180 AA
 AC POL275;
 DT 21-JUL-1986 (Rel. 01, created)
 DT 13-AUG-1987 (Rel. 05, last sequence update)
 DT 15-JUN-2002 (Rel. 41, last annotation update)
 DE Glucagon precursor (contains: Glucenin-related polypeptide (GRPP);
 DE Glucagon; glucagon-like peptide 1 (GLP1); glucagon-like peptide 2
 DE (GLP2)).
 GN GCS.
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RP [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86350860; PubMed=2901414;
 RA Brucker D.J., Asa S.;
 RT "Glucagon gene expression in vertebrate brain."
 PL J. Biol. Chem. 263:13475-13478(1988).
 PN [2]
 PN SEQUENCE FROM N.A.
 RX MEDLINE=86259053; PubMed=3725587;
 RA White J W, Saunders G F;

RT "Structure of the human glucagon gene."
 RI Nucleic Acids Res. 14:4719-4730(1986).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE: Liver;
 RX MEDLINE=83271477; PubMed=6877358;
 RA Bell G.T., Saperot Pascador R., Laybourn P.J., Najarian R.C.;
 RT "X-ray duplication and divergence in the human preproglucagon gene."
 PL Nature 304:568-571(1983).
 RN [4]
 RP SEQUENCE FROM N.A.
 RC TISSUE: Pancreas;
 RA Strauberg R.;
 RL Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
 RN [5]
 RP SEQUENCE OF 53-81.
 RA Thomsen T., Kristiansen K., Brunfeldt K., Sundby F.;
 RT "The amino acid sequence of human glucagon."
 PL FEBS Lett. 21:315-319(1972).
 RN [6]
 RP SEQUENCE OF 98-127.
 RX MEDLINE=89327238; PubMed=2753890;
 RA Orskov C., Bersani M., Johnsen A.H., Hoelrup P., Holst J.L.;
 RT "Complete sequences of glucagon like peptide-1 from human and pig
 RI small intestine."
 PL J. Biol. Chem. 264:12626-12629(1989)
 RN [7]
 RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
 RX MEDLINE=94334844; PubMed=9667960;
 RA Sturm N.S., Lin Y., Hurley S.K., Krystiansky J.J., Ahn J.M.,
 RA Azizch B.Y., Iliweldi D., Brady V.J.;
 RT "Structure function studies on positions 17, 18, and 21 replacement
 RI analogues of glucagon: the importance of charged residues and salt
 RI bridges in glucagon biological activity."
 PL J. Med. Chem. 41:2593-2700(1998).
 RN [8]
 RP -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCAGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLUC STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE. CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PREPARED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- PHARMACEUTICAL: Available under the names Glucagon (Eli Lilly) and
 CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
 CC severe hypoglycemia in insulin-dependent diabetics.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -1- DATABASE: NAME-glucagon at EMBL/GenBank/DDBJ.
 CC NOTE- clinical information on Eli Lilly glucagon products:
 CC WWW="http://www.lillylab.com/products/patientinfo.cfm".
 CC -----
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 CC -----
 CC EMBL: J04040; AAA52567.1;
 DR EMBL: X03991; CAA27627.1;
 DR EMBL: V01515; CAA24759.1;
 DR EMBL: BC005278; AAH05278.1;
 DR PIR: A24377; GCHD.
 DR PIR: S23309; S23309.
 DR PDB: 1BH0; 18-NOV-98.
 DR GCGW: HGNC:4191, CCG.
 DR MIM: 138030;
 DR MIM: 241530;
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 3.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCA: 3.
 DR PROSITE: PS00260; GLUCAGON: 4.

Glucagon family: Hormone; cleavage on pair of basic residues; Signal;
Pharmaceutical: 3D structure.

FT	Signal	1	20	GLICENTIN-RELATED POLYPEPTIDE.
FT	PEPTIDE	21	81	GLUCAGON.
FT	PEPTIDE	53	127	GLUCAGON-LIKE PEPTIDE 1.
FT	PEPTIDE	98	178	GLUCAGON-LIKE PEPTIDE 2.
FT	PEPTIDE	146	276	GLUCAGON-LIKE PEPTIDE 3.
FT	PEPTIDE	180	356	GLUCAGON-LIKE PEPTIDE 4.
FT	SEQUENCE	180 AA	20909 MW	7499667629828620 C6644

Query Match 92.4% Score 134, DB 1; Length 180;
Best local similarity 93.1% Pred. No. 1 60-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1 AEGTTSVSSYLEGQAQKEFIAMLVKGR 29
|||||
99 AEGTTSVSSYLEGQAQKEFIAMLVKGR 127

RESULT 5
GLUC_MESAU STANDARD: PRT: 180 AA.

ID	GLUC_MESAU	STANDARD:	PRT:	180 AA.
AC	P01273			
DT	21-JUN-1986 (rel. 01, Created)			
DT	01-OCT-1996 (rel. 3), last sequence update)			
DT	16-OCT-2001 (rel. 40, last annotation update)			
DE	Glucagon precursor [contains: Glucenin-related polypeptide (GRPP):			
DE	Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2			
DE	(GLP2)].			
OS	CGC.			
OS	Mesocricetus auratus (Golden hamster).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;			
OC	Mesocricetus			
OX	NCHI_TaxID=10036;			
OX				
RP	SEQUENCE FROM N.A.			
RP	Medline=81167561; PubMed=6835407;			
RA	Bell G.L., Sauter R.F., Mullerbach G.T.			
RT	"Hamster preproglucagon contains the sequence of glucagon and two			
RT	related peptides."			
RT	Nature 302:716-718(1983).			
RL	121			
RL	REVISIONS TO 12-15.			
RA	Bell G.L.			
RL	Submitted (XXX-1985) to the EMBL/Genbank/DBJ databases.			
CC	-1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND			
CC	RAISES THE BLOOD SUGAR LEVEL.			
CC	-1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS			
CC	HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT			
CC	CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.			
CC	-1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS			
CC	IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.			
CC	-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.			
CC	-----			
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CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/			
CC	or send an email to license@isb-sib.ch).			
CC	-----			
DR	EMBL: J00059; AAA37074.1			
DR	PIR: A01549; GCHV			
DR	HSSP: P01274; 1G7N			
DR	InterPro: IPR000532; Glucagon			
DR	Pfam: PF00123; hormone2; 3			
DR	PRINTS: PR00275; GLUCAGON			
DR	SMART: SM00070; GLUCA; 3			
DR	PROSITE: PS00260; GLUCAGON; 4			
DR	Glucagon family: Hormone; cleavage on pair of basic residues; Signal.			
FT	Signal	1	20	GLICENTIN-RELATED POLYPEPTIDE.

FT	PEPTIDE	21	50	GLICENTIN-RELATED POLYPEPTIDE.
FT	PEPTIDE	53	81	GLUCAGON.
FT	PEPTIDE	92	128	GLUCAGON-LIKE PEPTIDE 1.
FT	PEPTIDE	146	178	GLUCAGON-LIKE PEPTIDE 2.
FT	PEPTIDE	180	356	GLUCAGON-LIKE PEPTIDE 3.
FT	SEQUENCE	180 AA	20954 MW	02791R49DTMAD4B C6644

Query Match 92.4% Score 134, DB 1; Length 180;
Best local similarity 93.1% Pred. No. 1 60-13;
Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1 AEGTTSVSSYLEGQAQKEFIAMLVKGR 29
|||||
99 AEGTTSVSSYLEGQAQKEFIAMLVKGR 127

RESULT 6
GLUC_MOUSE STANDARD: PRT: 180 AA.

ID	GLUC_MOUSE	STANDARD:	PRT:	180 AA.
AC	P55095			
DT	01-OCT-1996 (rel. 34, Created)			
DT	01-OCT-1996 (rel. 34, last sequence update)			
DT	15-JUN-2002 (rel. 41, last annotation update)			
DE	Glucagon precursor [contains: Glucenin-related polypeptide (GRPP):			
DE	Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2			
DE	(GLP2)].			
OS	CGC.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.			
OC	NCHI_TaxID=10090;			
OX				
RP	SEQUENCE FROM N.A.			
RP	Medline=95247722; PubMed=7730317;			
RA	McDonald J.K., Mackin P.R., Nee R.D.			
RT	"Processing of mouse proglucagon by recombinant prohormone convertase			
RT	1 and immunopurified prohormone convertase 2 in vitro."			
RT	J. Biol. Chem. 270:10136-10146(1995).			
RL	121			
RP	SEQUENCE FROM N.A.			
RP	Shamsadin R., Knepel W.			
RT	"Mouse glucagon full length cDNA."			
RT	Submitted (JUN-2000) to the EMBL/Genbank/DBJ databases.			
CC	-1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND			
CC	RAISES THE BLOOD SUGAR LEVEL.			
CC	-1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS			
CC	HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT			
CC	CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.			
CC	-1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS			
CC	IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.			
CC	-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.			
CC	-----			
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CC	use by non-profit institutions as long as its content is in no way			
CC	modified and this statement is not removed. Usage by and for commercial			
CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/			
CC	or send an email to license@isb-sib.ch).			
CC	-----			
DR	EMBL: Z46845; CAAB6902.1			
DR	EMBL: AF276754; NAK66988.1			
DR	HSSP: P01274; 1G7N			
DR	MED: MGI:95674; Gcd			
DR	InterPro: IPR000532; Glucagon			
DR	Pfam: PF00123; hormone2; 3			
DR	PRINTS: PR00275; GLUCAGON			
DR	SMART: SM00070; GLUCA; 3			
DR	PROSITE: PS00260; GLUCAGON; 4			
DR	Glucagon family: Hormone; cleavage on pair of basic residues; Signal.			
FT	Signal	1	20	GLICENTIN-RELATED POLYPEPTIDE.
FT	PEPTIDE	21	50	GLICENTIN-RELATED POLYPEPTIDE.

FT PEPTIDE 53 81 GLUCAGON.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SV SEQUENCE 160 AA: 20-96 MW: 5656A6ED4A549450 PK: 64:

Query Match 92.4%, Score 134, DB 1, Length 180.
 Best Local Similarity 93.1% Pred. No. 1,6e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGTTSVSSYLEGQAXEPIAMEVKR 29
 DB 99 AAGTTSVSSYLEGQAXEPIAMEVKR 127

RESULT 7

GLUC_OCTDE
 ID GLUC_OCTDE STANDARD PRT 180 AA

AC P22890;
 DT 01-AUG-1991 (Rel. 19, Created)
 DT 01-AUG-1991 (Rel. 19, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [Catalans: Glucagon-related polypeptide (GRRP);
 DE Glucagon; glucagon like peptide 1 (GLP1); glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.

OS Octodon degus (Degu).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriornathia; Ochlorhinea; Ochlorhinea;
 OX NCBI_TaxID=10160;

RN 11
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91155452; PubMed=2291024;

RA Nishi M, Steiner D F;
 RT "Cloning of complementary DNAs encoding islet amyloid polypeptide,
 RT insulin, and glucagon precursors from a New World rodent, the degu,
 RT Octodon degus";
 RL Mol. Endocrinol. 4, 1192-1198(1993).

CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.

CC 1 FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.

CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----

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CC -----

DR EMBL: M57688; AAA40588.1;
 DR PIR: C61118, GCRTD0;
 DR HSSP: F01274, IGCN;
 DR InterPro: IPR000532; Glucagon;
 DR Pfam: PF00123; hormone2; 3;
 DR PRINTS: PR00275; GLUCAGON;
 DR SMART: SM00070; GLUCA; 3;
 DR PROSITE: PS00760; GLUCAGON, 4;

KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW Amidation.

FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLUCAGON-RELATED POLYPEPTIDE;
 FT PEPTIDE 53 81 GLUCAGON;
 FT PEPTIDE 92 127 GLUCAGON-LIKE PEPTIDE 1;
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2;
 FT MOD_RES 127 127 AMIDATION (S-128 PROTEIN AMIDE GROUP);
 SV SEQUENCE 180 AA: 21165 MW: 458835160A5494501 GC:54;

Query Match 92.4%, Score 134, DB 1, Length 180;

Best Local Similarity 93.1% Pred. No. 1,6e-13;
 Matches 27; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGTTSVSSYLEGQAXEPIAMEVKR 29
 DB 99 AAGTTSVSSYLEGQAXEPIAMEVKR 127

RESULT 8

GLUC_RAT
 ID GLUC_RAT STANDARD PRT 180 AA

AC P06883;
 DT 01-JAN-1988 (Rel. 06, Created)
 DT 01-JAN-1988 (Rel. 06, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [Catalans: Glucagon-related polypeptide (GRRP);
 DE Glucagon; glucagon-like peptide 1 (GLP1); glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.

OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathia; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;

RN 11
 RP SEQUENCE FROM N.A.
 RX MEDLINE=85054853; PubMed=6094539;
 RA Heinrich G, Gros P, Habener J F;
 RT "Cloning of rat pre-proglucagon. Four of six exons encode separate functional
 RT domains of rat pre-proglucagon";
 RL J. Biol. Chem. 259:14082-14087(1984).

RN 12
 RP SEQUENCE FROM N.A.
 RX MEDLINE=85054853; PubMed=6548596;
 RA Heinrich G, Gros P, Lund P K, Bentley P C, Habener J F;
 RT "Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded
 RT amino acid sequences of the rat pancreatic complementary
 RT deoxyribonucleic acid";
 RL Endocrinology 115:2176-2181(1984).

RN 13
 RP SEQUENCE FROM N.A.
 RX MEDLINE=8504324; PubMed=3528148;
 RA Mojsov S, Heinrich G, Wilson L B, Rava7701a M, Orci L;
 RA Habener J F;
 RT "Preproglucagon gene expression in pancreas and intestine diversifies
 RT at the level of post-translational processing";
 RL J. Biol. Chem. 261:11880-11889(1986)

CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.

CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLOS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.

CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC -----

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DR EMBL: K02813; AAA41235.1;
 DR EMBL: K02809; AAA41235.1; JOINED.
 DR EMBL: K02810; AAA41235.1; JOINED.
 DR EMBL: K02811; AAA41235.1; JOINED.
 DR EMBL: K02812; AAA41235.1; JOINED.

DR PIR: A22555; GCRT.
 DR PIR: A44198; A44198.
 DR HSSP: F01274, IGCN;
 DR InterPro: IPR000532; Glucagon;
 DR Pfam: PF00123; hormone2; 3;

DH	PRINTS:	PR000275; GLUCAGON.
DR	SMART:	SM00070; GLUGA: 3.
DS	PROSITE:	PS00260; GLUCAGON: 4.
DT	GLUCAGON family:	Hormone; Glucavase on pair of basic residues: Signal.
KM	SIGNAL:	21 20
FT	PEPTIDE:	53 81
ET	PEPTIDE:	92 128
FT	PEPTIDE:	146 178
ET	PEPTIDE:	2084c RM;
SS	SEQUENCE:	180 AA: 2084c RM; 75c4f10v035c7g79r CRG64;
		Score 134; DH 13; Length 180;
	Query Match:	92.4%;
	Most Local Similarity	93.1%;
	Matches 27; Conservative	0; Mismatches
OY	1 AEEETSDVSSYLESGAXEFLAEVKGR 29	
	L L L L L L L	
DB	99 AECHTSDVSSYLESGAKKFLAMVKOR 127	
		Gaps 0;
		Indecs 2;
		Indels 0;

	RESULT	9	
GC	GLUC-CHICK	STANDARD:	PRT: 151 AA.
ID	GLUC-CHICK		
AP	PI01277;		
DT	21 JUL 1986 (Ref. 01, created)		
DT	01 AUG 1990 (Ref. 15, last sequence update)		
DT	15 JUL 1999 (Ref. 48, last annotation update)		
DE	glucagon precursor,		
OS	Gallus gallus (Chicken), and		
OS	Mallotus gallipavo (Common turkey);		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Aves; Neornithae; Galliformes; Phasianidae; Phasianinae;		
OC	Gallus.		
OX	NCBI_TaxID=9031, 9103;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	SPECIES=chicken; TISSUE=pancreas;		
RC	SPEDBIS=chicken; PUBMED=2318175;		
KX	MDLINP=90294942; PubMed-2318175;		
RA	Hasegawa S., Terazono K., Naito K., Takata T., Yamamoto H.,		
RA	Baba M.		
RT	*Okinawa II, sequence determination of chicken glucagon precursor		
RT	cDNA. Chicken preproglucagon does not contain glucagon-like peptide		
RT	11.*		
RL	J. Biol. Chem. 250:9377-9380(1975).		
RN	[2]		
RP	SEQUENCE OF 55-83		
RC	SPECIES=chicken;		
KX	MDLINP=76069271; PubMed-1194290;		
RA	Pollack H.G., Kimmel J.R.;		
RT	*Chicken glucagon. Isolation and amino acid sequence studies.*		
RL	J. Biol. Chem. 250:9377-9380(1975).		
RN	[3]		
RP	COMPOSITION, AND SEQUENCE OF 55-83.		
RC	SPECIES=M.gallipavo;		
KX	MDLINP=7074118; PubMed-4645932;		
RA	Mathiesen L., Frandsen E.K., Hoeging I.G., Sundby F.;		
RT	*Turkey glucagon: crystallization, amino acid composition and		
RT	immunochemistry.		
RL	I. Horm. Metab. Res. 4:360-363(1972).		
OC	FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES		
OC	THE BLOOD SUGAR LEVEL.		
OC	INDUCTION: PRODUCED IN THE ISLETS OF LANCERHANS		
OC	IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.		
OC	MISCELLANEOUS: THE COMPOSITION OF TURKEY GLUCAGON APPEARS TO BE		
OC	IDENTICAL WITH CHICKEN.		
OC	MISCELLANEOUS: CHICKEN PREPROGLUCAGON DOES NOT CONTAIN		
OC	GLUCAGON-LIKE PEPTIDE 11.		
OC	SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.		
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CC	tion at the European Bioinformatics Institute. There are no restrictions o-		
CC	n use by non-profit institutions as long as its content is in t		

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CC      ----- CMA68827.1;
DR      EMBL: Y07539;
DR      PIR: S09992; CCCH.
DR      PIR: A91740; A91740.
DR      HSSP: P01274; 1GCN. Glucagon.
DR      InterPro: IPR000532;
DR      Pfam: PF00123; hormone2.2.
DR      PRINTS: PR00275; GLUCAGON.
DR      SMART: SM00070; GLUCA_2.
DR      PROSITE: PS00260; HMGACON. 3
KM      Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
DM      Amidation.
KM      SIGNTL. 1 22
FT      CHAIN. 23 151
FT      PROPEPTIDE. 55 83
FT      PROPEPT. 86 118
FT      PROPEPT. 118 147
FT      MOD_RES. 147
FT      SEQUENCE. 151 AA: 17520 MW:
Query Match      84.1%; Score 122; DH 1; length 151;
      Similarity 79.3%; Pred. No. 9, 4e-12;
      Local 2; Conservative 3; Mismatches 3; indels 0; Gaps 0.
Matches

```

CLASS	10	STANDARD	PRT	103 AA
GLUC_RANCA				
ID	GLUC_RANCA			
AC	P15438; P15439; P15440;			
IN	01-APR-1990 (Rel. 14, last sequence update)			
IN	01-JUL-1993 (Rel. 26, last annotation update)			
DT	01-JUL-1993 (Rel. 26, last annotation update)			
DE	Glucagon precursor (Fragment).			
US	Rana catesbeiana (Bull frog), Chamaeleon: Vertebrata; Euteleostomi;			
OC	Fukuyama; Metazoa; Chordata; Chamaeleon: Vertebrata; Euteleostomi;			
OC	Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Ranidae; Rana;			
OX	NCHI_taxid=8400;			
RN	(1)			
RP	SEQUENCE:			
RC	1155IE-Pancreas; PubMed=3260236;			
RA	MEDLINE=8827102; Hamilton J.W., Rouse J.B., Ihnor K.E., Rawitch A.H.;			
XX	Pollock H.G., Hamilton J.W., Rouse J.B., Ihnor K.E., Rawitch A.H.;			
RT	"Isolation of peptide hormones from the pancreas of the bullfrog			
RT	(Rana catesbeiana). Amino acid sequences of pancreatic polypeptide,			
RT	oxyntomodulin, and two glucagon-like peptides."			
RL	J. Biol. Chem. 263:9746-9751(1988).			
CC	-1- FUNCTION: PROMOTES HYDROLYSIS OF GLUCOGEN AND LIPIDS, AND RAISES			
CC	THE BLOOD SUGAR LEVEL.			
CC	-1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS			
CC	IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.			
CC	-1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY			
CC	OTHER SPECIES SEQUENCES.			
CC	-1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.			
DR	PIR; B28091; CCFH.			
DR	HSP; P01274; IGCN.			
DR	InterPro: IPR000532; Glucagon.			
DR	PRINTS: PR0275; GLUCAG.			
DR	SMART: SM00070; GLUCAG.			
DR	PROSITE: P500260; GLUCAGON; 3.			
KW	Glucagon family; Hormone.			
FT	PEPTIDE 1 29	GLUCAGON-36 (OXYNTOMODULIN).		
FT	PEPTIDE 1 36	GLUCAGON-LIKE PEPTIDE 2.		
FT	PEPTIDE 39 70	GLUCAGON-LIKE PEPTIDE 1.		
FT	NON-CONS 71 71			
FT	PEPTIDE 71 103	MM: 3162871HAEICB17 CXC64;		
SO	SEQUENCE: 103 AA: 11719			

Query Match	74.5%	Score 108;	DB 1;	Length 103;
Best Local Similarity	68.0%	prod No. 9	1e-10;	
Matches	20;	Conservative	5,	Mismatches 4, Indels 0, Gaps 0,

```
QY 1 AEGFTSDVSSYLEGGVAXEFLIWEVKGR 29
      | : | | | | | | | | | | | | | |
Db 40 ADGFTSDMSSYLEEKAAKEFVDWLKGR 68
```

RESULT 11
GLUM_ANGAN

DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last annotation update)
 DE Glucagon-like peptide (GLP)
 OS *Anguilla anguilla* (European freshwater eel), and
 OS *Anguilla rostrata* (American eel).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Putevisostomi;
 OC Actinopterygii; Neopterygii, Teleostei; Anguilliformes, Anguillidae;
 OC Anguilla
 OX NCBI_TaxID=7936, 7938;

RT "The primary structure of glucagon-like peptide but not insulin has been conserved between the American eel, *Anguilla rostrata* and the European eel, *Anguilla anguilla*."

RI Gen. Comp. Endocrinol. 82:32-37(1993).

CC -- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

DR	ETSP:	61125	61125	
DR	HSSP:	P01275	1BH0	
DR	InterPro:	IPR000532	Glucagon,	
DR	PIfam:	Pf000123	hormone2,	1
DR	PRINTS:	PR00275	GLUCAGON,	
DR	SMART:	SM00070	GLUCA:	1
DR	ProSITE:	PS00260	GLUCAGON:	1
DR	Glucagon family:	Amidation.		
FT	MOD_RES	30	30	
SO	SEQUENCE:	30 AA,	3376 MW,	CS210ACPAH6FA9160 CPT64

Query Match	72.48	Score 105	DB 1	Length 30
Best Local Similarity	69.08	Pred. No. 7.2e-10		
Matches	20	Conservative	4	Mismatches 5
				Indels 0
				Gaps 0

Qy	1	AKCTFTSDVSSSTYLQQAAXHIAEIVKQK	25
		: :	
Db	2	AKCTYTSIVSSSTYLQQAAXEIVSWIKTKR	30

RESULT 12
GIJ02_10PAM

AC Peptidase
DE 01-Niv-1986 (PeI 03, *Cratichneumon*)
DT 01-Niv-1986 (PeI 03, last sequence update)
DT 16-Oct-2001 (PeI 40, last annotation update)
DE Glucosyl 11 precursor [Contdins, Glucosyl-related polypeptide (GRP)
DE Glucosyl 11, Glucosyl-11K peptide 11].
OS *Lophius americanus* (Amurichia quoyensis) (Anguilliformes).
OS Eukaryota; Metazoa; Chordata; Crustacea; Vertebrata; Pisces; Osteichthyes; Actinopterygii; Neopterygii; Teleostei; Furculostei; Nealeostei; Acanthopterygii; Paracanthopterygii; Lophiliformes; Lophilidae; Lophius
NCBI_TaxID=8073;
111

RT	"Anglerfish islet pre-proglucagon II. Nucleotide and corresponding
RT	amino acid sequence of the cDNA."
Ki-	J. Biol. Chem. 258:3269-3284(1983).
101	

RP
PROCESSING:
PX
MELT=86286013; P10M04 4526001;
PA
MOE B.D., Andrews P.C.;
TT
Specific glucagon-related peptides isolated from anguillid islet

CC -1- FINDING: PROMOTES HYDROLYSIS OF CHOLESTEROL AND TRIGL. AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- INDUCTION: PRODUCED IN THE α CELLS OF THE ISLETS OF LANGERHANS
CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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CC or send an email to license@isb.sib.ch).

DR EMBL: V006632; CNA23905.1; -;
DR PIR: A05150; GCAP2. -;
DR HSSP: P01274; 1GCM. -;
DR InterPro: IPH000532; Glucagon.
DR Pfam: Pf06123; hemo-gcc2; 2
DR PRINTS: PR00775; GLUCAGON.
DR SMART: SM00070; GLUCF; 2.
DR ProSITE: PS00260; GLUCAGON; 2.
DR Glucagon family; Hormone; Cleavage on pair of basic residues, signal
PT Signal. 1 21

Query Match:	68.38%	Score 39:	DB 1:	length 122.
Best Local Similarity:	67.18%	Pred. NC:	2.7e-08:	
Matches	18:	Conservative	6:	Mismatches 5: Indels 0: Gaps 0:

QY I AFGFTSLVSSYLPEQAAXEFLAMEVKCK 29
| : | : | : | : | : | : | : | : |
Lb 90 ALGIVTSLVSSYLQDAAKIFVSWLKGR 118

TEST	RESULT	REFERENCE RANGE
CLU2_URENI	13	0.00-0.01

OC Polyz. 01-NOV-1997 (rel. 35, Created)
 DT 01-NOV-1997 (rel. 35, Last sequence update)
 DT 01-NOV-1997 (rel. 35, Last annotation update)
 DE Glucagon II.
 OS *Oreochromis niloticus* (Nilf tilapia) (tilapia nilotica).
 OC Eukaryota, Metazoa, Chordata, Vertebrata, Euteleostomi.
 AC *Acanthopterygii*, *Neopterygii*, *Telostei*, *Pisces*, *Pisces*, *Neoteleostei*.
 OC Acanthomorphia, Acanthopterygii, Pteromorphia, Perciformes, Labroidae.
 OC Clariidae, Oreochromis.
 NCBI_TaxID=8128;
 CX 111

FA. Njaye et al., Wright J R, Jr., Nielsen P E, Condon J M.: "Characterization of the pancreatic hormone from the frogman: both RT of the tissue implications for islet xenograft studies." N. Comp. Biochem. Physiol. 111C:33-44(1995).

RT. -1- FUNCTION: DEGRADATION OF GLYCOGEN AND LIPIDS, AND RAISES THE BLOOD SUGAR LEVEL.

CC. -1- INTENTION: PREVENTED IN THE A CELLS OF THE ISLETS OF LANGEHRANS

CC -1- FUNCTION. PROMOTED HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISED THE BLOOD SUGAR LEVEL.

CC -1- INTERACTION. PROMOTED IN THE A CELLS OF THE ISLETS OF LANGHERANS

IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC 1. SIMILARITY: BELONGS TO THE GLUCAGON FAMILY
 DR HSSP: P01275; 1HHO.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 1.
 DR SMART: SM00070; GLUCA; 1.
 DR PROSITE: PS00260; GLUCAGON; FALSE.NEG.
 KW Glucagon family; hormone.
 SV SEQUENCE 33 AA: 3731 MM: F5B8C5D8C92DA56E CRC64:
 Query Match 66.2%; Score 96; DB 1; Length 33;
 Best Local Similarity 66.7%; Pred. No. 1.9e-08;
 Matches 18; Conservative 4; Mismatches 5; Indels 0; Gaps 0;
 DB 3 GPTTSVSSYLEGQAAKEFIAMVEYKGR 29
 1:|||||:|||||:11
 4 GPTTSVSSYLEGQAAKEFIAMVEYKGR 29

RESULT 14
 ID GLUC_LEPSP STANDARD; PRT; 71 AA.
 AC P04093;
 DT 01-NOV-1986 (Rel. 03, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 01-NOV-1990 (Rel. 16, Last annotation update)
 DE Glucagon precursor (Fragment).
 OS Ictalurus punctatus (Channel catfish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Siluriformes;
 OC Ictaluridae; Ictalurus.
 OX NCBI_TaxID=798;
 RN [1]
 RP TISSUE-Pancreas;
 RC MEDLINE=87156787; PubMed=3030323;
 RA Hossain N.M., Mahrenholz A.M., Andrews P.C., Gurd R.S.;
 RT "Biological activities of catfish glucagon and glucagon-like
 peptide.";
 RL Biochem. Biophys. Res. Commun. 143:87-92(1987).
 RN [2]
 RP SEQUENCE.
 RC TISSUE-Pancreas;
 RX MEDLINE=85157536; PubMed=3848546;
 RA Andrews P.C., Rimmer P.;
 RT "Isolation and structures of glucagon and glucagon-like peptide from
 catfish pancreas.";
 RL J. Biol. Chem. 260:3910-3914(1985).
 CC 1. FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC 1. INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC 1. MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC AMERICAN GOOSEFISH SEQUENCES.
 CC 1. SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: A05166; GCIDC.
 DR HSSP: P01274; 1GCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUCA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; hormone.
 FT NON_TER 1 29
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 38 71 GLUCAGON-LIKE PEPTIDE.
 FT CONFLICT 53 53 E -> D (IN REF. 2).
 FT NON_TER 71 71
 SV SEQUENCE 71 AA: 8173 MM: 2468BE/AD9V1AMF CRC64:
 Query Match 65.5%; Score 95; DB 1; Length 71;
 Best Local Similarity 62.1%; Pred. No. 6.2e-08;
 Matches 18; Conservative 5; Mismatches 6; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMVEYKGR 29
 1:|||||:|||||:11
 DB 39 ADGFTSDVSSYLEGQAAKEFIAMVEYKGR 67

RESULT 15
 ID GLUC_LEPSP STANDARD; PRT; 78 AA.
 AC P09566;
 DT 01-MAR-1989 (Rel. 10, Created)
 DT 01-NOV-1990 (Rel. 16, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Glucagon precursor [contains: Glucagon; Glucagon-36 (oxyntomodulin);
 DE Glucagon-like peptide] (Fragment).
 OS Lepisosteus spatula (Alligator gar) (Atractosteus spatula).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Semionotiformes; Lepisosteidae;
 OC Lepisosteus.
 OX NCBI_TaxID=7917;
 RN [1]
 RP SEQUENCE OF 1-36 AND 45-78.
 RC TISSUE-Pancreas;
 RX MEDLINE=88196798; PubMed=3282974;
 RA Pollock H.G., Kimmel J.R., Ebner K.E., Hamilton J.W., Rouse J.B.,
 RA Lance V., Rawlitch A.B.;
 RT "Isolation of alligator gar (Lepisosteus spatula) glucagon,
 RT oxyntomodulin, and glucagon-like peptide: amino acid sequences of
 RT oxyntomodulin and glucagon-like peptide.";
 RL Gen. Comp. Endocrinol. 69:133-140(1988).
 RN [2]
 RP PRELIMINARY SEQUENCE OF 1-29.
 RC TISSUE-Pancreas;
 RX MEDLINE=88030594; PubMed=3311873;
 RA Pollock H.G., Kimmel J.R., Hamilton J.W., Rouse J.B., Ebner K.E.,
 RA Lance V., Rawlitch A.B.;
 RT "Isolation and structures of alligator gar (Lepisosteus spatula)
 RT insulin and pancreatic polypeptide.";
 RL gen. Comp. Endocrinol. 67:375-382(1987).
 CC 1. FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL.
 CC 1. INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC 1. MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLOGY WITH
 CC AMERICAN GOOSEFISH SEQUENCES.
 CC 1. SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR PIR: S06338; GCGA.
 DR HSSP: P01274; 1GCN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 2.
 DR SMART: SM00070; GLUCA; 2.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; hormone.
 FT PEPTIDE 1 29 GLUCAGON.
 FT PEPTIDE 36 78 GLUCAGON-LIKE PEPTIDE.
 FT PEPTIDE 45 78
 SV SEQUENCE 78 AA: 8990 MM: 30106496271594E0 CRC64:
 Query Match 58.6%; Score 95; DB 1; Length 78;
 Best Local Similarity 58.6%; Pred. No. 6.9e-08;
 Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFIAMVEYKGR 29
 1:|||||:|||||:11
 DB 46 ADGFTSDVSSYLEGQAAKEFIAMVEYKGR 74

Search completed May 13, 2003. 09:25:41
 Job time: 16.2542 secs

GenCore version 5.1.4_p5_4578
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OM protein - protein search, using sw model

Run on: May 13, 2003, 09:07:49. Search time 53.8983 seconds.

114.687 Million cell updates/sec

Title: US-09-868-974-3

Sequence: 1 AEGTFTSDVSSYLEGQAAKEFIAMWEVKGR 30

Scoring table: BIOSUM62

671580 seqs, 2066047115 residues

Total number of hits satisfying chosen parameters: 67158

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Minimum DB seq length: 0
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Post-processing: Minimum Match 0%

Listing first 45 summaries

Database

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1:  SP_archae:.*
2:  SP_bacteria:.*
3:  SP_fungi:.*
4:  SP_human:.*
5:  SP_invertebrate:.*
6:  SP_mammal:.*
7:  SP_mmc:.*
8:  SP_organelle:.*
9:  SP_phage:.*
10: SP_plant:.*
11: SP_protist:.*
12: SP_virus:.*
13: SP_vertebrate:.*
14: SP_unclassified
15: SP_virus:.*
16: SP_bacteriap:.*
17: SP_archaeap:.*

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Pred. NO. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARY

Result No.	Score	Query Match	Length	DB	ID	Description
1	134	92.4	180	6	Q95LC0	Q95LC0 canis fami
2	122	84.1	206	13	Q91410	Q91410 talus gas
3	116	80.0	204	13	Q13956	Q13956 belodonta
4	108	74.5	230	13	Q9MTL9	Q9MTL9 hepi-batr
5	104	71.7	266	13	Q42143	Q42143 xenopus la
6	99	68.9	219	13	Q42144	Q42144 xenopus la
7	97	66.9	72	13	Q91409	Q91409 oncorhynch
8	97	66.9	178	13	Q41971	Q41971 oncorhynch
9	92	63.4	121	13	Q91189	Q91189 oncorhynch
10	87	60.0	121	13	Q9DDE6	Q9DDE6 brachydact
11	85	58.6	160	13	Q9PRL1	Q9PRL1 peromyscus
12	76	52.4	62	13	Q9F8W9	Q9F8W9 scyliorhin
13	73	50.3	96	13	Q9GCA3	Q9GCA3 ambloplit
14	64	44.1	120	13	Q9PRL0	Q9PRL0 peromyscus
15	52.5	36.2	250	5	Q95XL4	Q95XL4 caenorhabd
16	42	35.9	445	4	Q452L6	Q452L6 caenorhabd

17	51.5	35.5	427	17	Q8L1Y0
18	50	34.5	130	11	Q9CVL1
19	50	44.5	144	11	Q9D487
20	49.5	34.1	268	10	Q9SXW8
21	48.5	33.4	266	10	Q40185
22	48	33.1	561	4	Q9NR10
23	48	31.2	564	4	Q961V4
24	48	31.1	564	4	Q9H477
25	48	31.1	712	3	Q8X0K3
26	48	33.1	3600	10	Q9SA64
27	47.5	33.8	222	10	Q9XF08
28	47.5	32.8	251	10	Q92495
29	47	33.4	136	17	Q8L1Q2
30	47	32.4	154	16	Q8YF50
31	47	32.4	236	16	Q8Y8A1
32	47	32.4	244	16	Q8Z1U5
33	47	32.4	532	16	Q92N06
34	47	32.4	721	2	Q9X4B9
35	47	33.4	877	10	Q42497
36	46.5	32.1	256	19	Q93VE0
37	46.5	32.1	256	19	Q8S306
38	46.5	32.1	1055	10	Q39725
39	46	31.7	236	16	Q92011
40	45.5	31.4	185	16	Q33224
41	45.5	31.4	702	2	Q91FK2
42	45.5	31.4	703	2	Q91PK3
43	45.5	31.4	703	2	Q91PK1
44	45.5	31.4	703	16	Q9J9C7
45	45.5	31.4	703	16	Q9J9C5
					Q8L1Y0 mechanosar
					Q9CVL1 mus musculi
					Q9D487 mus musculi
					Q9SXW8 physcomitri
					Q40185 leima gibba
					Q9NR10 homo sapien
					Q961V4 homo sapien
					Q9H477 hemo sapien
					Q8X0K3 neurospora
					Q9SA64 arabidopsis
					Q9XF08 chlamydomo
					Q92495 tetraselmis
					Q8L1Q2 methanosaer
					Q8YF50 bruceella me
					Q8Y8A1 listeria mo
					Q8Z1U5 salmonella
					Q92N06 holtycolacta
					Q9X4B9 chloroflexia
					Q42497 chlorella v
					Q93VE0 chlamydomo
					Q8S306 chlamydomo
					Q39725 euglena gra
					Q92011 listeria in
					Q33224 mycobacteri
					Q91FK2 neisseria m
					Q91PK3 neisseria m
					Q91PK1 neisseria m
					Q9J9C7 neisseria m
					Q9J9C5 neisseria m

ALIGNMENTS

RESULTS

ID	Q95LG0	PRELIMINARY;	PRT;	180 AA
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Ü1-DEC-2001 (TTHM:rel. 19, Created)

01-MAR-2002 (TREMBALE, 20, last annotation update)

Canis familiaris (Dog).

OC Mammalia; Futheria; Carnivora; Fissipedia; Canidae; Canis.

RN	111
ED	111

RA Irwin D.M.;
BT JOHN

dog: ";

DR IMBL; AF308439; AAI.09425.1; -
TolerPro: TBP000533; Clucase

DR Prostite: P500450: C11H14NO2: 3.14

SEQUENCE 180 AA; 21114 MW; 80F66941AFC324FD CRC64;

Query Match	92.48	Score 134,	DB 6;	Length 180,
Post Total Similarity	94.7%	Field No.	66-13.	

Mathematics	20%	Computational Logic	10%	Minimal Changes	2%	Models	3%	Caps	0%
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1 AUC: F1SDVSYLHCOAXEFAM:VKR 29

DD 99 AFOI:SDVSTHFOAKREIAMI.VKOR 12

RESULT 2

091410 PRELIMINARY: PRT: 206 AA
ID 091410

01-NOV-1996 (TEMPLE:el. 01, Created)

[illegible]

DE 01-DEC-2001 (TREMBLER, 19, last annotation update)
 DE Proglucagon.
 GN PROGLUCAGON.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neornithae; Galliformes; Phasianidae; Phasianidae;
 OC Gallus.
 OX NCBI_TaxID=9041;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95295739; PubMed=7776976;
 RA Irwin D.M., Wong J.;
 RT "Treat and chicken proglucagon: alternative splicing generates mRNA
 transcripts encoding glucagon-like peptide 2.";
 RL Mol. Endocrinol. 9:267-277(1995).
 DR EMBL: S78477; AAB34506.1;
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000512; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCAG; 4.
 DR PROSITE: PS00260; GLUCAGON; 3.
 SU SEQUENCE 206 AA; 23875 MW; AB299E1B02FC6AA4 CRC64;

Query Match 84.1%; Score 122; DB 13; Length 206;
 Host local Similarity 79.4%; Pred. No. 5,9e-11;
 Matches 23; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 29
 DB 119 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 147

RESULT 4
 ID 012956 PRELIMINARY: PRT: 204 AA.
 AC 012956; 012955;
 DT 01-JUN-1997 (TREMBLER, 04, Created)
 DT 01-JUL-1997 (TREMBLER, 04, Last sequence update)
 DT 01-JUN-2001 (TREMBLER, 17, last annotation update)
 DE Glucagon precursor.
 OS Heloderma suspectum (Gila monster).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Lepidoptera; Squamata; Sclerophossa; Anguilliformes; Helodermatidae;
 OC Heloderma.
 OX NCBI_TaxID=8554;
 RN [1]
 RP SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY.
 RC TISSUE=INTESTINE, AND PANCREAS;
 RX MEDLINE=97172477; PubMed=9020121;
 RA Chen Y.E., Drucker D.J.;
 RT "Tissue-specific expression of unique mRNAs that encode proglucagon-
 derived peptides or exendin 4 in the lizard.";
 RL J. Biol. Chem. 272:4108-4115(1997).
 CC 1 FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
 CC THE BLOOD SUGAR LEVEL (BY SIMILARITY).
 CC 1 ALTERNATIVE PRODUCTS: 2 ISOFORMS: LPT1 (SHOWN HERE) AND LPT2 ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC 1 TISSUE SPECIFICITY: ISOFORM LPT1 IS EXPRESSED IN BOTH PANCREAS AND
 CC INTESTINE. EXPRESSION OF ISOFORM LPT2 IS RESTRICTED TO THE
 CC PANCREAS. NEITHER ISOFORM IS DETECTED IN SALIVARY GLAND.
 CC 1 INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS IN
 CC RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
 CC 1 SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 DR EMBL: 077612; AAB51129.1;
 DR EMBL: 077611; AAB51128.1;
 DR HSSP: P01274; ICGN.
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCAG; 4.
 DR PROSITE: PS00260; GLUCAGON; 2.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;

KW Alternative splicing.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50
 FT PEPTIDE 53 81
 FT PEPTIDE 116 145
 FT PEPTIDE 164 196
 FT VARSPLIC 149 149
 FT VARSPLIC 150 204
 SU SEQUENCE 204 AA; 23553 MW; B132E4E4873E72 CRC64;

Query Match 80.0%; Score 116; DB 13; Length 204;
 Host local Similarity 75.9%; Pred. No. 5e-10;
 Matches 22; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 29
 DB 117 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 145

RESULT 4
 ID 080WL9 PRELIMINARY: PRT: 220 AA.
 AC 080WL9;
 DT 01-MAR-2002 (TREMBLER, 20, Created)
 DT 01-MAR-2002 (TREMBLER, 20, Last sequence update)
 DT 01-JUN-2002 (TREMBLER, 21, last annotation update)
 DE Proglucagon.
 OS Hoplobatrachus rugulosus.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranotoceae; Ranidae;
 OC Hoplodactylus.
 OX NCBI_TaxID=110072;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Yeung C.-M., Chow B.K.C.;
 RT "Identification of a proglucagon cDNA from Rana tigrina rugulosa that
 RT encodes two GLP-1s.";
 RL Gen. Comp. Endocrinol. 124:0-0(2001).
 DR EMBL: AF324209; AAL35758.1;
 DR InterPro: IPR000532; Glucagon.
 DR Pfam: PF00123; hormone2; 4.
 DR PRINTS: PR00275; GLUCAGON.
 DR SMART: SM00070; GLUCAG; 4.
 DR PROSITE: PS00260; GLUCAGON; UNKNOWN.4.
 SU SEQUENCE 220 AA; 25615 MW; C72D926E7F89E381 CRC64;

Query Match 74.5%; Score 108; DB 13; Length 220;
 Host local Similarity 69.0%; Pred. No. 9,8e-09;
 Matches 20; Conservative 5; Mismatches 4; Indels 0; Gaps 0;

QY 1 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 29
 DB 136 AEGFTSDVSSYLEGQAAKEFLAMEVKGR 164

RESULT 5
 ID 042143 PRELIMINARY: PRT: 266 AA.
 AC 042143;
 DT 01-JAN-1998 (TREMBLER, 05, Created)
 DT 01-JAN-1998 (TREMBLER, 05, Last sequence update)
 DT 01-JUN-2001 (TREMBLER, 17, last annotation update)
 DE Glucagon I precursor (contains: glucagon, glucagon-like peptide 1A
 DE (GLP-1A); glucagon-like peptide 1B (GLP-1B); glucagon-like peptide 1C
 DE (GLP-1C); glucagon-like peptide 2 (GLP-2)).
 OC Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipiloidea; Pipidae;
 OC Xenopodidae; Xenopus.
 OX NCBI_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RC TISSUE=PANCREAS;

```

RX MEDLINE-97368292; PubMed 973287;
RA Irwin D.M., Satkunarajah M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties."
RL Proc Natl Acad Sci U S A. 94(19):7920(1997)
CC 1 FUNCTION: PROMOTES HYPERLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- ALTERNATIVE PROPEPSES: 2 (SHOWNS: 1 (SHOWN HRPD) AND 2: ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY
CC EMBL: AF004432; AAB65660.1;
CC HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 5.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 5.
DR PROSITE: PS00260; GLUCAGON; 5.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family; Alternative splicing.
FT SIGNAL: 1 2
FT PEPTIDE: 53 81 GLUCAGON.
FT PEPTIDE: 97 133 GLUCAGON-LIKE PEPTIDE 1A
FT PEPTIDE: 142 173 GLUCAGON-LIKE PEPTIDE 1B
FT PEPTIDE: 180 211 GLUCAGON-LIKE PEPTIDE 1C
FT PEPTIDE: 227 259 GLUCAGON-LIKE PEPTIDE 2
FT VARSPLIC: 214 261 MISSING (IN ISOFORM 2);
SO SEQUENCE: 266 AA, 30951 MW, 54477HMC20AF872C CKC64,

Query Match 71.7%; Score 104; DB 13; Length 266;
Best Local Similarity 62.1%; Pred. No. 5.2e-08;
Matches 18; Conservative 7; Mismatches 4; Indels 0; Gaps 0;

OY 1 AECTPSDVSSYLEGOAXEPIAMVEKGR 29
DB 181 AECTPSDVSSYLEGOAXEPIAMVEKGR 209
|||||:|||||:|||||:|||||:|||||:
042144 PRELIMINARY: PRT; 219 AA
ID 042144:
AC 042144:
DT 01-JAN-1998 (TREMBlrel. 05, Created)
DT 01-JAN-1998 (TREMBlrel. 05, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE Glucagon II precursor [contains: glucagon-like peptide 1A
DE (GLP-1A), glucagon-like peptide 1B (GLP-1b), glucagon-like peptide 1C
DE (GLP-1c)].
OS Xenopus laevis (African clawed frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae;
OC xenopodinae; Xenopus.
OX NCBI_TaxID=8355;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-PANCREAS;
RX MEDLINE-97368292; PubMed-9223287;
RA Irwin D.M., Satkunarajah M., Wen Y., Brubaker P.L., Pederson R.A.,
RA Wheeler M.B.;
RT "The Xenopus proglucagon gene encodes novel GLP-1-like peptides with
RT insulinotropic properties."
RL Proc Natl Acad Sci U S A. 94(19):7920(1997).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
CC EMBL: AF004433; AAB65661.1;
CC HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 4.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 4.
DR PROSITE: PS00260; GLUCAGON; 3.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;

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KW Multigene family.
FT SIGNAL: 1 20 POTENTIAL.
FT PEPTIDE: 53 81 GLUCAGON.
FT PEPTIDE: 97 133 GLUCAGON-LIKE PEPTIDE 1A
FT PEPTIDE: 142 173 GLUCAGON-LIKE PEPTIDE 1B
FT PEPTIDE: 180 211 GLUCAGON-LIKE PEPTIDE 1C
SO SEQUENCE: 219 AA, 25471 MW, 47592.45 kDa CKC64;

Query Match 48.1%; Score 99; DB 13; Length 219;
Best Local Similarity 58.6%; Pred. No. 2.5e-07;
Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 AECTPSDVSSYLEGOAXEPIAMVEKGR 29
DB 181 AECTPSDVSSYLEGOAXEPIAMVEKGR 209
|||||:|||||:|||||:|||||:|||||:
091409 PRELIMINARY: PRT; 72 AA
ID 091409:
AC 091409:
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE proglucagon (Fragment).
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Procatopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=7940;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE-95295739; PubMed-7776976;
RA Irwin D.M., Wong J.;
RT "Trout and chicken proglucagon: alternative splicing generates mRNA
RT transcripts encoding glucagon-like peptide 2."
RL Mol. Endocrinol. 9:267-277(1995).
DR EMBL: S78474; AAD14283.1;
DR EMBL: U19920; AAC59670.1;
DR HSSP: P01274; IGCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCA; 2.
DR PROSITE: PS00260; GLUCAGON; UNKNOWN_1.
FT NON-TER 1
SO SEQUENCE: 72 AA, 8293 MW, 8564352HIC20UA31 CKC64;

Query Match 46.4%; Score 97; DB 13; Length 72;
Best Local Similarity 58.6%; Pred. No. 1.3e-07;
Matches 17; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

OY 1 AECTPSDVSSYLEGOAXEPIAMVEKGR 29
DB 40 AECTPSDVSSYLEGOAXEPIAMVEKGR 68
|||||:|||||:|||||:|||||:|||||:
091971 PRELIMINARY: PRT; 178 AA
ID 091971:
AC 091971:
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE Glucagon I precursor.
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Procatopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A. AND ALTERNATIVE SPLICING.
RC TISSUE-DISTAL SMALL INTESTINE, AND PANCREAS;

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EMBL: U19916; AAC60210.1; JOINED.
DR EMBL: U19915; AAC60210.1; -.
DR HMMH: U19915; AAC60209.1; -.
DR HSSP: P01274; ICGN.
DR InterPro: IPRO00532; Glucagon-
DR Pfam: PF00123; hormone2; 3.
DR PRINTS: PR00275; GLUCAG_3.
DR SMART: SM00070; GLUCAG_3.
DR PROSITE: PS00260; GLUCAGON; UNKNOWN_2.
KW Glucagon family; Hormone; Cleavage at pair of basic residues; Signal;
KW Alternative splicing; Multigene family.
FT SIGNAL 1 ? POTENTIAL.
FT PEPTIDE 2 49 GRP (GLICENTINE RELATED POLYPEPTIDE).
FT PEPTIDE 52 80 GLUCAGON-.
FT PEPTIDE 85 120 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 137 169 GLUCAGON-LIKE PEPTIDE 2.
FT VAMPPLIC 124 178 MISSING (IN PANCREATIC ISOPORM).
SQ SEQUENCE 178 AA; 19998 MW; E89D7386CD91C66 CRC64;

Query Match
Host Local Similarity 63.4%; Score 92; DB 13; Length 178;
Matches 16; Conservative 57.1%; Pred. No 2.4e-06; Indels 0; Gaps 0;
Mismatches 7;

QY 1 AEGFTSDVSSYLEGQAAXEFIAAEVKG 28
DB 91 ADGTYSDDSYTLGDQAARDEVSLKSG 118
|:::||||||: |::|::|
RESULT 10
Q9DDE6 PRELIMINARY: PRT: 121 AA.
ID Q9DDE6 AC Q9DDE6
AC Q9DDE6: 01-MAR-2001 (TREMURel. 16, Created)
DT 01-MAR-2001 (TREMURel. 16, Last sequence update)
DT 01-JUN-2001 (TREMURel. 19, Last annotation update)
DE Glucagon polypeptide.
GX 635 bp cDNA.
OS Brachydanio rerio (zebrafish) (zebra danio);
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neoceratognathi; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN 111
RP SEQUENCE FROM N.A.
RX MRLUINR-99425190; PubMed-10495291;
RA Argentin F.; Zecchin E.; Bortolussi M.;
RT "Early appearance of pancreatic hormone-expressing cells in the
RT zebrafish embryo.";
RL Mech. Dev. 87:217-221(1994)
DR EMBL: AJ13697; ICGN.
DR HSSP: P01274; ICGN.
DR ZFIN: ZDN-GENB-010219-1; gcg.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2
DR PRINTS: PR00275; GLUCAGON-.
DR SMART: SM00070; GLUCAG_3.
DR PROSITE: PS00260; GLUCAGON; 1.
KW polypeptide.
KM CHAIN 49 79 GLUCAGON.
FT CHAIN 88 121 GLUCAGON-LIKE PEPTIDE 1.
FT SEQUENCE 121 AA; 13537 MW; A5385F690DA140F CRC64;

Query Match
Host Local Similarity 40.0%; Score 87; DB 13; Length 121;
Matches 17; Conservative 73.4%; Pred. No 9.1e-06; Indels 0; Gaps 0;
Mismatches 3;

QY 1 AEGFTSDVSSYLEGQAAXEFIA 23
DB 89 AEGTYSDDSYTLGDQAARFVA 111
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1D Q9P0R1 PRELIMINARY: PRT: 160 AA.
AC Q9P0R1: Q9P0R1: Q9P0R1: 13, Created
DT 01-MAY-2000 (TREMURel: 13, Last sequence update)
DT 01-MAY-2000 (TREMURel: 13, Last sequence update)
DE Glucagon 1 precursor [Contains: Glucagon; glucagon-like peptide 1
DE (GLP 1); glucagon-like peptide 2 (GLP-2)].
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hymenoptera;
OC Petromyzoniformes; Petromyzonidae; Petromyzon.
OX NCBI_TaxID=7757;
RN [1]
RP SOURCE FROM N.A.
RC TISSUE=INTESTINE; PubMed:1055286;
PX MEDLINE=20022986; PubMed:1055286;
PY Irwin D.M., Hunter O., Youson J.H.;
PT "Lamprey proglucagon and the origin of glucagon-like peptides";
RL Mol Biol Evol 16:1548-1557(1999)
RM [2]
RP SOURCE OF 43-71 AND 82-113.
RC TISSUE=INTESTINE; PubMed:8405897;
PX MEDLINE=94010172; PubMed:8405897;
PY Conlon J.M., Nielsen P.F., Youson J.H.;
PT "Primary structures of glucagon and glucagon like peptide isolated
PT from the intestine of the parasitic phase lamprey Petromyzon
PT marinus.";
RL Gen Comp Endocrinol 91:96-104(1993).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOSYL AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF159707; AAF09186.1; -.
DR HSSP: P01275; 1BH0.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG: 2.
DR PROSITE: PS00260; GLUCAGON: 2.
KW Glucagon family; Hormone; Signal; Cleavage on pair of basic residues;
KW Multigene family.
FT SIGNAL 1 22 POTENTIAL.
FT PEPTIDE 43 71 GLUCAGON.
FT PEPTIDE 82 113 GLUCAGON-LIKE PEPTIDE 1.
FT PEPTIDE 130 160 GLUCAGON-LIKE PEPTIDE 2.
SV SEQUENCE 160 AA; 18042 MW; 94525305A74072 CRC64.

Query Match 58.6%; Score 85; DB 13; Length 160;
Best Local Similarity 54.2%; Pred No. 2 6e-05;
Matches 13; Conservative 9; Mismatches 2; Indels 0; Gaps 0;

QY 1 AEGFTSVSSVLEQAXEPIAW 24
:|||||:|||||:|:|:|:|
DB 83 ADGFTNDMTSYLDARAFARDFVSW 106

RESULT 12
Q9P0R1 PRELIMINARY: PRT: 62 AA.
AC Q9P0R1: Q9P0R1: Q9P0R1: 13, Created
DT 01-MAY-2000 (TREMURel: 13, Last sequence update)
DT 01-MAY-2000 (TREMURel: 13, Last sequence update)
DE Glucagon precursor [Contains: glucagon 29; glucagon-33; glucagon-like
DE peptide] (Fragments).
OS Scyliorhinus canicula (Spotted dogfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC Elasmobranchii; Galeomorphi; Galeoidae; Carhathiniiformes;
OC Scyliorhinidae; Scyliorhinus.
OX NCBI_TaxID=7830;
RN [1]
RP SEQUENCE.
RC TISSUE=PANCREAS; PubMed:801974;
PX MEDLINE=94286411; PubMed:801974;
PY Conlon J.M., Hazen N., Thim L.;

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RT "Primary structures of peptides derived from proglucagon isolated from
RT the pancreas of the elasmobranch fish, Scyliorhinus canicula.";
RL Peptides 15:163-167(1994).
CC -1- FUNCTION: PROMOTES HYDROLYSIS OF GLYCOSYL AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR EMBL: AF159707; AAF09186.1; -.
DR HSSP: P01274; 1GCN.
DR InterPro: IPR000532; Glucagon.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG: 2.
DR PROSITE: PS00260; GLUCAGON: 2.
KW Glucagon family; Hormone.
FT PEPTIDE 1 29 GLUCAGON-29.
FT PEPTIDE 33 33 GLUCAGON-33.
FT NON CONS 33 34
SV SEQUENCE 62 AA; 7270 MW; 05E48761C596D1 CRC64.

Query Match 52.4%; Score 76; DB 13; Length 62;
Best Local Similarity 50.0%; Pred No. 0 0.0022;
Matches 12; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

QY 1 AEGFTSVSSVLEQAXEPIAW 24
:|||||:|||||:|:|:|:|
DB 2 SCGFTNTVNTVTHROKQDPIRW 25

RESULT 13
Q9D043 PRELIMINARY: PRT: 96 AA.
AC Q9D043:
DT 01-MAR-2001 (TREMURel: 16, Created)
DT 01-MAR-2001 (TREMURel: 16, Last sequence update)
DT 01-DEC-2001 (TREMURel: 19, Last annotation update)
DE Proglucagon (Fragment).
OS Amniotiles rupastris.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes;
OC Centrarchidae; Acanthopterygii; Perciformes; Percoidae;
OC NCBI_TaxID=109273;
RN [1]
RP SEQUENCE FROM N.A.
RA Al-Madrouk A.A., Irwin D.M., Youson J.H.;
RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.
RE EMBL: AF159499; AAG16778.1; -.
DR HSSP: P01274; 1GCN.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 2.
DR PRINTS: PR00275; GLUCAGON.
DR SMART: SM00070; GLUCAG: 2.
DR PROSITE: PS00260; GLUCAGON: 2.
KW NON TER 1 1
FT CHAIN 1 >29 GLUCAGON.
FT CHAIN 39 >70 GLUCAGON-LIKE PEPTIDE 1.
FT CHAIN 85 >96 GLUCAGON-LIKE PEPTIDE 2.
FT NON TER 96 96
SV SEQUENCE 96 AA; 11225 MW; 6435833EBDD30CE CRC64.

Query Match 50.3%; Score 73; DB 13; Length 96;
Best Local Similarity 50.0%; Pred No. 0 0.0011;
Matches 12; Conservative 7; Mismatches 5; Indels 0; Gaps 0;

QY 1 AEGFTSVSSVLEQAXEPIAW 24
:|||||:|||||:|:|:|:|
DB 2 SCGFTNTVNTVTHROKQDPIRW 25

RESULT 14
Q9P0R1 PRELIMINARY: PRT: 120 AA.
AC Q9P0R1:

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RT 01 MAY 2000 (TREMURel. 13, created)
DT 01 MAY 2000 (TREMURel. 13, last sequence update)
DT 01-MAY-2001 (TREMURel. 14, last annotation update)
DE Glucagon 11 precursor [contains: Glucagon; glucagon-like peptide
DE (GLP)].
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzontiiformes; Petromyzontidae; Petromyzon
OC NCBI_TaxID=7757;
RN 111
RP SEQUENCE FROM N.A.
RC TISSUE=INTESTINE;
RX MEDLINE=20022986; PubMed=10555286;
RA Lewis D.M., Hunter O., Youson J.H.;
RT "Lamprey glucagon and the origin of glucagon-like peptides."
RI Mol. Biol. Evol. 16:1548-1557(1999).
CC - FUNCTION: PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND RAISES
CC THE BLOOD SUGAR LEVEL.
CC - SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DE EMBL: AF159708; AAF09187.1;
DE HSSP: P01275; IHHO.
DE InterPro: IPR000542; Glucagon.
DE Pfam: PF00123; hormone2; 2.
DE SMART: SM00070; GLUCA; 2.
DE PROSITE: PS00260; GLUCAGON; 2.
DE Glucagon family; hormone; signal; cleavage on pair of basic residues;
KW Multigene family.
KW SIGNAL.
KW PEPTIDE 44 72 GLUCAGON.
KT PEPTIDE 89 120 GLUCAGON-LIKE PEPTIDE.
SQ SEQUENCE 120 AA: 13397 MW: 1396796619808 CRC64:
Query Match 44.1%; Score 64; DB 13; Length 120;
Best Local Similarity 41.7%; Pred. No. 0.036;
Matches 10; Conservative 8; Mismatches 6; Indels 0; Gaps 0;
QY 1 AEGTTSNVSSYLEGQAXEFLAMV 24
DB 45 SQGSPTSYSKHLDVQAKDPVTV 68
RESULT 15
ID Q95XLA PRUIMINARY; PRT; 210 AA.
AC Q95XLA;
DT 01-DEC-2001 (TREMURel. 19, created)
DT 01-DEC-2001 (TREMURel. 19, last sequence update)
DT 01-MAR-2002 (TREMURel. 20, last annotation update)
DE Hypothetical 24.2 kDa protein.
DE Y54F10BM.5
GN Caenorhabditis elegans.
OS Caenorhabditis elegans.
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC Rhabditidae; Petoderae; Caenorhabditis.
OC NCBI_TaxID=6239;
RN 111
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
RX MBLINF-99069613; PubMed=9851916;
RA None;
RT "Genome sequence of the nematode C. elegans: a platform for
RT investigating biology. The C. elegans Sequencing Consortium."
RI Science 282:2012-2018(1998).
RN 121
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
RA Bradshaw-Cordum H., Ryan E., Courtney L., Yaskum M.;
RT "The sequence of C. elegans cosmid Y54F10BM."
RI Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN 131
RP SEQUENCE FROM N.A.
RC STRAIN-BRISTOL N2;
RA Waterston R.;

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RT "Direct Submission."
RL Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
DE EMBL: AC026301; AAK6896.1;
DE InterPro: IPR002900; DUF38.
DE InterPro: IPR001810; F-box.
DE Pfam: PF01827; DUF38; 1.
DE Pfam: PF00646; F-box; 1.
DE PROSITE: PS50181; PROX; 1.
KW Hypothetical protein
SQ SEQUENCE 210 AA: 24173 MW: 2460821904644 CRC64:
Query Match 36.2%; Score 52.5; DB 5; Length 210;
Best Local Similarity 37.9%; Pred. No. 4.4;
Matches 11; Conservative 4; Mismatches 11; Indels 3; Gaps 1;
QY 3 GFTTSNVSS--YLGQAXEFLAMRVK 28
DB 167 GLLSRVDSTLRVLDQKLDITLWIKG 195
Search completed: May 13, 2003, 09:27:37
Job time : 55.8983 secs

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